

**CHAPTER 2.0        SIGNIFICANT ENVIRONMENTAL EFFECTS OF THE PROPOSED PROJECT**

Pursuant to the County of San Diego *Environmental Impact Report Format and General Content Requirements* (September 26, 2008), this section provides a detailed discussion of those subject areas for which Project implementation would result in either (1) significant impacts that cannot be avoided and/or (2) significant impacts that can be avoided, reduced, or minimized through the application of mitigation measures. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the Project is being proposed, notwithstanding their effect, is described. This chapter, in conjunction with SEIR chapter 3.0, satisfies §§15126(a-e), 15126.2, and 15126.4 of the State CEQA Guidelines.

## 2.1 Air Quality

This section is based on several Project-specific technical studies prepared by Urban Crossroads to evaluate the Project's potential for significant impacts to air quality. These studies include the following: 1) "Air Quality Study, Otay Business Park Development" (April 29, 2010), which is included as Appendix B1 to this SEIR; 2) "Otay Business Park Greenhouse Gas Emissions Evaluation" (dated April 27, 2010), which is included as Appendix B2 to this SEIR; and 3) "Otay Business Park Mobile Source Health Risk Assessment" (dated August 4, 2008), which is included as Appendix B3 to this SEIR.

### 2.1.1 Existing Conditions

#### 2.1.1.1 *Climate and Meteorology*

The Project site is located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. This high pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone, commonly known as smog.

The climate of the coastal southern California, including the County of San Diego, is determined largely by high pressure that is almost always present off the west coast of North America. High-pressure systems are characterized by an upper layer of dry air that warms as it descends. This warm, dry air acts as a lid, restricting cool air located near the surface creating an inversion of typical temperature conditions.

During the summer and fall, emissions generated in the region combine with abundant sunshine under the influences of topography and an inversion to create conditions that are conducive to the formation of photochemical pollutants, such as ozone, and secondary particulates, such as sulfates and nitrates. As a result, air quality in the SDAB is often the poorest during the warmer summer and fall months.

Average summer high temperatures in the Project vicinity (City of Chula Vista) are approximately 73 degrees Fahrenheit. Average winter low temperatures are approximately 45 degrees Fahrenheit. The average rainfall in the Project vicinity is approximately 9.3 inches annually.

The distinctive climate of the Project area and the SDAB is determined by its terrain and geographical location. The Basin is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly on-shore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

The prevailing winds in the Project area move predominately from northwest to southeast with an average wind speed of 2.33 meters per second (m/s).

### ***2.1.1.2 Regulatory Background***

All levels of government have some responsibility for the protection of air quality, and each level (Federal, State, and regional/local) has specific responsibilities relating to air quality regulation. Due to the extensive nature of air pollution regulation, this regulatory framework provides only a brief overview of the pertinent air quality regulations and standards.

#### Federal Regulations and Standards

##### Federal Clean Air Act

At the Federal level, the EPA has been charged with implementing the national air quality programs. The backbone of the EPA's air quality mandate is the Federal CAA signed into law in 1970, and the subsequent Clean Air Act Amendments (CAAA) of 1977 and 1990. Although the EPA deals primarily with international, national, and inter-State air pollution, the CAA and CAAA grant authority to the EPA to regulate air pollution on many levels. On the State level, the EPA is responsible for oversight of the State air quality programs. In addition, the EPA sets Federal vehicle and stationary source emission standards, and provides research and guidance for State and regional/local air quality programs.

Under the CAA and CAAA, the EPA was required to establish National Ambient Air Quality Standards (NAAQS) for several air pollutants. The pollutants of main concern include ozone (O<sub>3</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>) expressed as nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), and particulate matter equal to or smaller than 10 microns and 2.5 microns in diameter (PM<sub>10</sub> & PM<sub>2.5</sub>). As discussed above, the NAAQS represent the allowable atmospheric concentrations at which the public health and welfare are protected, and include a reasonable margin of safety to protect the more sensitive receptors in the population.

In addition, the CAA (and its subsequent amendments) required each State to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAAA of 1990 required States containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAAA, and will achieve air quality goals when implemented. If the EPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the non-attainment area, and may impose additional control measures. As a whole, FIPs tend to be more stringent than SIPs, and most jurisdictions make every effort to ensure their SIP is adequate.

### State Regulations and Standards

#### California Environmental Quality Act

Under the California Environmental Quality Act (CEQA) lead agencies are required to consider impacts relating to air quality. This includes the consideration of potential impacts resulting from pollutant emissions associated with the construction and operational phases of projects.

#### California Air Resources Board

The State agency responsible for coordination of State and local air pollution control programs is the California Air Resources Board (CARB), a branch of the California EPA. A primary responsibility of CARB is to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Although the CARB has primary responsibility, and produces a major portion of the SIP for pollution sources that are State-wide in scope (e.g. motor vehicles), it relies on local air districts to provide additional strategies for sources under their jurisdiction. The CARB combines its data and plans with the plans provided by the local air districts, and submits the SIP to the EPA. As such, the SIP consists of the emissions standards for vehicular sources set by the CARB, and the attainment plans including the rules adopted by the local air districts and approved by the CARB.

To ensure attainment of the NAAQS and to improve California's air quality, the CARB has established a stricter set of standards in the CAAQS. The CAAQS are defined as the maximum acceptable pollutant concentrations that are not to be equaled or exceeded, depending on the specific pollutant and averaging times.

Further duties of the CARB include monitoring air quality. The CARB has established and maintains, in conjunction with local air pollution control agencies, a network of sampling stations known as the State and Local Air Monitoring Station (SLAMS) network. These stations monitor the pollutant levels in the ambient air around the monitoring station. CARB is also responsible for setting emission standards for motor vehicles, consumer products, small utility engines, and off-road vehicles. The CARB is additionally responsible, in conjunction with the local air districts, for developing and maintaining the AB 2588 Air Toxic "Hot Spots" program and for regulating toxic air contaminants (TAC) in general.

### Local Regulations and Standards

#### Air Quality Management Districts (AQMD) and Air Pollution Control Districts (APCD)

State law recognizes that air pollution does not respect political boundaries, and as such required the CARB to divide the State into separate air basins based on geographical and meteorological conditions. An APCD is a county agency with authority to regulate stationary, indirect, and area sources of air pollution (e.g., power plants, highway construction, and housing developments) within a given county, and governed by a district air pollution control board composed of the elected county supervisors. An AQMD is a group of counties or portions of counties, or an individual county specified in law with authority to regulate stationary, indirect, and area sources of air pollution within the region and governed by a regional air pollution control board comprised mostly of elected officials from within the region. In the County of San Diego, protection and regulation of air quality is the responsibility of the San Diego County APCD. The Federal and State standards have been adopted by the APCD for assessing local air quality impacts.



Air districts, such as the San Diego County APCD, have the primary responsibility for control of air pollution from all sources other than emissions from motor vehicles, which are the responsibility of the CARB and EPA. Under Federal and State law, air districts are required to adopt and enforce rules and regulations to achieve State and Federal AAQS, and enforce applicable Federal and State laws. Since the passage of the California Clean Air Act (CCAA) and the CAA and Amendments, this role has been expanded to include the implementation of transportation control measures, and indirect source control programs to reduce mobile source emissions.

### Regional Air Quality Plans

As previously stated, a non-attainment designation means that a primary NAAQS or CAAQS has been exceeded in a given area per a designated schedule depending on the pollutant. For each non-attainment area within the State, the CCAA has specified air quality management strategies that must be adopted by the agency responsible for the non-attainment area. Each area must prepare and adopt an air quality management plan (AQMP) or regional air quality strategy (RAQS), which lays out programs for attaining the CAAQS and NAAQS for all criteria pollutants. At present, no attainment plan for PM<sub>2.5</sub> or PM<sub>10</sub> is required by the state regulations.

The attainment plan for Ozone (O<sub>3</sub>) must demonstrate a five-percent-per-year reduction of ozone precursors. In cases where this reduction rate is not feasible, alternative strategies must be identified, and every feasible control measure implemented. The San Diego County RAQS for the San Diego Air Basin was initially adopted in 1991, and subsequently revised in 1995, then in 1998, again in 2001 and most recently in 2004. The RAQS outlines APCD's plans and control measures designed to attain the State air quality standards for O<sub>3</sub>. In addition, the APCD relies on the SIP, which includes the APCD's plans and control measures for attaining the O<sub>3</sub> NAAQS. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on sources to attain the standards. The County of San Diego RAQS relies on information from the San Diego Association of Governments (SANDAG) including the SANDAG Transportation Control Measures Plan (TCM Plan), as well as information regarding projected growth in the County, to identify strategies for the reduction of stationary source emissions through regulatory controls.

### APCD Rules and Regulations

As discussed above, State law provides that local air districts such as the APCD have primary responsibility for controlling emissions from non-mobile (stationary) sources. The stationary source control measures identified in the RAQS and SIP have been developed by the APCD into regulations through a formal rulemaking process. Rules are developed to set limits on the amount of emissions from various types of sources and/or by requiring specific emission control technologies (ECTs). Following rule adoption, a permit system is used to impose controls on new and modified stationary sources and to ensure compliance with regulations by prescribing specific operating conditions or equipment on a source.

Of particular difficulty in San Diego County is ensuring that new or modified sources do not interfere with attainment or maintenance of the established air quality standards for O<sub>3</sub>. Since O<sub>3</sub> is a secondary pollutant (i.e. O<sub>3</sub> is not directly emitted, but results from complex chemical reactions in the atmosphere from precursor pollutants) control of the precursors is required. Therefore, control of emissions of VOCs and oxides of nitrogen (NO<sub>x</sub>), the O<sub>3</sub> precursors, is essential.

### New Source Review and Prevention of Significant Determination

Federal and State law requires that air districts in non-attainment areas conduct New Source Review (NSR) prior to permitting "major" sources, or modifying existing "major" sources. The purpose of NSR is to allow continued industrial growth in non-attainment areas and, at the same time, ensure that new and modified sources do not aggravate existing air quality problems and/or negate emissions reductions from other sources. The SIP for the SDAB also requires non-major sources to undergo NSR.

Under NSR, all existing and new stationary sources of emissions are required to conduct a Best Available Control Technology (BACT) analysis to evaluate the feasibility of implementing emission control devices. New sources may in some instances have to offset their own emission increases using Emission Reduction Credits (ERCs). In general, technological feasibility, economic, environmental, and energy issues must be taken into account when determining the applicable appropriate control technology.

In addition, Rule 20 provides for the protection of Class I Airsheds. Class I Airsheds are Federal protected lands designated under Title I, Part C of the Clean Air Act. The object of the Prevention of Significant Deterioration (PSD) regulations is to prevent deterioration of air quality within attainment areas. Federal PSD regulations state that major sources of air pollution may not impact a Class I Airshed within 100 km of it. As of 2006, there were six Class I Airsheds within 100 km of San Diego County, with only one, the Agua Tibia National Wilderness Area, within the boundaries San Diego County.

### San Diego County Grading, Clearing and Watercourse Ordinance

SEC. 87.428. Dust Control Measures requires all clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust. These project design measures are to be incorporated into all earth disturbing activities to minimize the amount of PM emissions from construction.

### Toxic Air Contaminants

Toxic air contaminants (TACs) are controlled under a different regulatory process than criteria pollutants. Because no safe level of emissions can be established for toxic air pollutants region-wide, the regulation of toxic air pollutants is based on the levels of cancer risk and other health risks posed to persons who may be exposed. Joint Federal, State and local efforts to develop further regulation of air toxics will be ongoing for the foreseeable future.

Under Federal law, 188 substances are listed as Hazardous Air Pollutants (HAPs). Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAPS) program. The EPA is establishing regulatory schemes for specific source categories, and requires implementation of Maximum Achievable Control Technologies (MACTs) for major sources of HAPs in each source category.

State law has established the framework for California's toxic air contaminant identification and control program, which is generally more stringent than the Federal program, and is aimed at HAPs

that are a problem in California. The State has formally identified more than 200 substances as TACs, and is adopting appropriate control measures for each. Once adopted at the State level, each district will be required to adopt a measure that is equally or more stringent. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) is a State-wide program enacted in 1987. AB 2588 requires hundreds of facilities in San Diego County to quantify the emissions of TACs, and in some cases conduct a health risk assessment, and notify the public, while developing risk reduction strategies. In San Diego County, APCD Rule 1210 implements the public notification and risk reduction requirements of the State Air Toxics "Hot Spots" Act, and requires facilities to reduce risks to acceptable levels within 5 years. In addition, Rule 1200 establishes acceptable risk levels, and emission control requirements for new and modified facilities that may emit additional TACs.

Typically, land development projects generate diesel emissions from construction vehicles during the construction phase, as well as some diesel emissions from small trucks during the operational phase. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances. Emissions from diesel engines currently include over 40 substances that are listed by EPA as hazardous air pollutants (HAPs) and by the CARB as TACs. On August 27, 1998, the CARB identified particulate matter in diesel exhaust as a toxic air contaminant, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.

In September 2000, CARB adopted a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce diesel particulate matter emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that CARB will implement over the next several years, and diesel engines in both on-road and off-road mobile sources are already regulated by the United States EPA.

#### Global Climate Change

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the Earth with respect to temperature, precipitation, and storms. Data has shown that GCC has occurred in the past over the course of thousands or millions of years. These climate changes occurred naturally without human influence, as in the case of past ice ages. However, the scientific consensus is that the global warming presently taking place is occurring at a quicker rate and magnitude as a result of increased concentrations of greenhouse gases (GHG) in the earth's atmosphere, that have resulted from human activity and industrialization over the past 200 years.

Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO<sub>2</sub> (Carbon Dioxide), N<sub>2</sub>O (Nitrous Oxide), CH<sub>4</sub> (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent reflected heat from escaping, thus warming the Earth's atmosphere. According to CARB, the climate change that is currently taking place differs from previous climate changes in both rate and magnitude. Gases that trap heat in the atmosphere are often referred to as GHG. GHG are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural GHG effect, the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these

gases in the Earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

In an effort to address the adverse impacts associated with GCC, the State Legislature enacted California Assembly Bill 1493, or the Pavley Bill, in 2002. AB 1493 directs CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHG emitted by passenger vehicles, light duty trucks and any other noncommercial, personal vehicle. Regulations adopted by ARB will apply to 2009 and later model year vehicles. CARB estimates that the regulations will reduce GHG emissions from the light duty passenger vehicle fleet by an estimated 21% by 2020.

In 2006, the State Legislature adopted Senate Bill 1368 (SB 1368), which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission (CPUC) to adopt a GHG emission performance standard (EPS) for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Due to the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the state. Thus, SB 1368 will lead to dramatically lower GHG emissions associated with California energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out of state producers that cannot satisfy the EPS standard required by SB 1368.

Also, in 2006, Assembly Bill 32 (AB 32), the California Global Warming Solutions Act, was signed into law by Governor Arnold Schwarzenegger, giving CARB primary responsibility for reducing statewide GHG emissions to 1990 levels by 2020. AB 32 includes the following goals for the reduction of GHG emissions:

- 2000 levels by 2010 (11% below business as usual)
- 1990 levels by 2020 (25% below business as usual)
- 80% below 1990 levels by 2050

Additionally, Governor Schwarzenegger signed into law Executive Order S-3-05, which requires the California EPA to prepare biannual reports to the Governor on progress made towards meeting the GHG emissions reduction targets and Executive Order S-01-07, which established a low-carbon fuels standard to reduce the carbon intensity of transportation fuels in California by at least 10 percent by 2020.

The United States Environmental Protection Agency (EPA) does not currently regulate vehicle GHG emissions; however, the United States Supreme Court has determined that EPA does have the authority to regulate GHG emissions from vehicle exhaust under the Clean Air Act. See *Massachusetts v. EPA*, 549 U.S. 497 (2007).

The place of climate change in the California Environmental Quality Act (CEQA) process was acknowledged in August of 2007, with the approval of Senate Bill 97 (SB 97). SB 97 gives the Office of Planning and Research (OPR) the authority to draft CEQA guidelines for addressing GCC, and requires OPR to develop guidelines for the feasible mitigation of GHG emissions or the effects

of GHG emissions by July 2009. These guidelines must be adopted by the Resources Agency by January 2010.

Additionally, in June 2008, the OPR released the technical advisory *CEQA and Climate Change: Addressing Climate Change Through CEQA Review*. In this document, OPR provides interim guidance on how climate change should be addressed in CEQA documents until the CEQA Guidelines are amended on or before January 1, 2010 (pursuant to SB 97).

State Senate Bill 375 (SB 375) is recent legislation that was passed by the State Legislature in August 2008 and signed into law by the Governor in September 2008. SB 375 offers incentives for local governments to adopt growth strategies that support “infill” development near transportation hubs and employment centers, giving residents the opportunity to make fewer car trips. The legislation links transportation funding to general land use planning and the CEQA. The legislation is intended to help the state's regions comply with the mandates of Assembly Bill 32 by reducing sprawl and GHG emissions through appropriate land use planning efforts. SB 375 provides for the following:

- Requires the regional governing bodies in the state’s major metropolitan areas to adopt “preferred growth scenarios” to reduce vehicle miles traveled. These scenarios would promote smart growth principles such as: development near public transit; projects that include a mix of residential and commercial use; and projects that include affordable housing to help reduce new housing developments in outlying areas with cheaper land.
- Creates an incentive for the preferred growth scenario to be implemented by awarding transportation funding only for projects that are consistent with the preferred growth scenario.
- Requires more sophisticated transportation planning that will more accurately account for the impacts of land use choices on transportation. Current plans don’t take into account the environmental benefits and VMT reductions from development projects that reduce sprawl.

Additional information about GCC and GCC effects can be found in the Project’s Greenhouse Gas Emissions Evaluation, provided as Appendix B2 to this SEIR.

### **2.1.1.3 Background Air Quality**

Existing air quality is measured based upon ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. Those standards currently in effect for both California and federal air quality standards are shown in Table 2.1-1, *Ambient Air Quality Standards*.

The determination of whether a region’s air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state standards and federal standards presented in Table 2.1-1. The air quality in a region is considered to be in attainment if: a) the measured ambient air pollutant levels for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, and PM<sub>10</sub> are not exceeded and all other standards are not equaled or exceeded at any time in any consecutive three-year period; and b) the federal standards (other than O<sub>3</sub>, PM<sub>10</sub>, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O<sub>3</sub> standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal or less than the standard. Table 2.1-2, *San Diego*

*County Air Basin Attainment Status by Pollutant*, provides a summary of the attainment status of the SDAB for both state and federal standards.

#### **2.1.1.4 Regional Air Quality**

The Air Pollution Control District (APCD) operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and NAAQS.

Air quality has shown improvement in the SDAB such that there have been no violations of standards for CO, NO<sub>x</sub>, or PM<sub>2.5</sub> over the past five years in the Project area and very low occurrences of violations for PM<sub>10</sub> and O<sub>3</sub>.

#### **2.1.1.5 Local Air Quality**

The nearest long-term air quality monitoring station to the Project for Ozone (O<sub>3</sub>), Carbon Monoxide (CO), Nitrogen Dioxide (NO<sub>x</sub>), and Inhalable Particulates (PM<sub>10</sub>) is carried out at the Otay Mesa monitoring station located approximately 1.2 miles southwest of the Project site. Data for Ultra-Fine Particulates (PM<sub>2.5</sub>) was obtained from the Chula Vista monitoring station located approximately 9.6 miles northwest of the Project site. Table 2.1-3, *Project Area Air Quality Monitoring Summary 2005-2007*, shows the number of days standards were exceeded for the study area.

### **2.1.2 Analysis of Project Effects and Determination as to Significance**

#### **2.1.2.1 East Otay Mesa Specific Plan Final EIR**

The Final EIR for the EOMSP concluded that implementation of the uses envisioned by the EOMSP, including the proposed Project, would result in potential local and regional air quality impacts due to construction sources, vehicular travel, and from small stationary sources that can be expected from buildout of the Specific Plan area. These impacts were described as potentially significant impacts for which mitigation would be required. The EOMSP Final EIR did not quantify the extent of emissions anticipated with buildout of the EOMSP area. The EOMSP Final EIR also indicated that although San Diego County exceeds the ambient air quality standards, the EOMSP was accounted for in the RAQS and no inconsistency was identified.

The EOMSP Final EIR was certified in 1994, and reflects the air quality conditions and regulatory environment that existed at that time. Since certification of the EOMSP Final EIR, a number of circumstances have changed, including: changed air quality conditions within the San Diego Air Basin; revised AQMD thresholds of significance for criteria pollutants; new AQMD regulations for PM<sub>2.5</sub> which were not in effect at the time the EOMSP Final EIR was certified; new requirements to analyze the potential for CO<sub>2</sub> hotspots from Project-generated traffic queuing at local intersections; requirements to evaluate cumulative impacts from simultaneous projects with respect to Particulate Matter and VOC emissions; and new requirements to consider Global Climate Change impacts as a part of the CEQA process. Therefore, based on the potential for new impacts to air quality that were not previously disclosed, and because the circumstances under which the Project would be undertaken have changed since the EOMSP EIR was certified in 1994, the County of San Diego has determined that a supplemental analysis of air quality impacts is required in order to identify, disclose, and mitigate for any new impacts resulting from Project implementation.

**2.1.2.2 Conformance to the Regional Air Quality Strategy**Guidelines for the Determination of Significance

The Project would have a significant adverse effect on air quality if the following would occur as a result of a Project-related component:

- (1) *The proposed Project would conflict with or obstruct the implementation of the San Diego Regional Air Quality Strategy (RAQS) and/or applicable portions of the State Implementation Plan (SIP).*

Threshold 1 evaluates the Project's consistency with the regional air quality strategy. The RAQS and the SIP accommodate emissions from all sources, including natural sources through implementation of control measures, where feasible, on stationary sources to attain air quality standards.

Analysis

A determination of whether the potential emissions resulting from operations of the proposed Project would result in a significant impact is based on an evaluation of the extent to which the proposed Project conforms to existing regional to local plans.

The proposed Project was assessed to determine consistency with the proposed SANDAG projections for growth within the area; after careful review it has been determined that the Project is consistent with the growth projections and therefore does satisfy consistency with the RAQS. This determination is based on a careful review of the SANDAG growth projections and the reasonably foreseeable cumulative projects in the subregional area (SRA). The South Bay SRA in which the proposed Project is located consists of approximately 2,314.8 acres of developed industrial uses (as of 2004). SANDAG projections indicate that industrial uses will continue to increase in the South Bay SRA through the year 2030, when it is estimated that the South Bay SRA will consist of approximately 3,757.1 acres of developed industrial uses. As a result, it is expected that an additional 1,442.3 acres of industrial uses will be developed between 2004 and 2030. It should be noted that the proposed Project along with reasonably foreseeable projects in the local vicinity are expected to develop approximately 838.34 acres of industrial uses. Since the Project along with other cumulative projects plans to develop approximately 838.34 additional acres of industrial use (which is less than planned growth), it is assumed that the Project does not conflict with the RAQS as the growth projections do not exceed those in the RAQS. As such, a significant impact would not occur due to a proposed conflict with the RAQS or other applicable portions of the SIP.

**2.1.2.3 Conformance to Federal and State Ambient Air Quality Standards**Guidelines for the Determination of Significance

The Project would have a significant adverse effect on air quality if any of the following would occur as a result of a Project-related component:

- (2) *The Project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation. Table 2.1-4, Screening Level Thresholds, identifies the applicable screening level thresholds used for assessing whether a proposed Project would violate or contribute to a violation of air quality standards.*

Significance Threshold 2 was selected to address Section III.b of Appendix G of the State CEQA Guidelines. Pursuant to this threshold, construction or operational impacts would be potentially significant if they exceed the quantitative screening-level thresholds (SLTs) for attainment pollutants ( $\text{NO}_x$ ,  $\text{SO}_x$ , and  $\text{CO}$ ) and would result in a significant impact if they exceed the screening-level thresholds for non-attainment pollutants ( $\text{O}_3$ ,  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$ ).

### Analysis

#### Construction Impacts

Construction activities associated with the proposed Project would result in emissions of  $\text{CO}$ , VOCs,  $\text{NO}_x$ ,  $\text{SO}_x$ ,  $\text{PM}_{10}$ , and  $\text{PM}_{2.5}$ . Construction related emissions are expected from the following construction equipment and construction activities:

- Demolition Exhaust Emissions
- Demolition Fugitive Dust ( $\text{PM}_{10}$ ) Emissions
- Rough Grading Exhaust Emissions
- Rough Grading Fugitive Dust ( $\text{PM}_{10}$ ) Emissions
- Underground Utility Construction Exhaust Emissions
- Off-Site Construction Exhaust Emissions
- Paving Exhaust Emissions
- Architectural Coatings
- Construction Workers Commuting
- Diesel-fired Particulates and Carcinogenic Impacts

It is assumed for purposes of this analysis that construction activity will be phased over the duration of approximately 14 months and that demolition and rough grading activity will not overlap with other phases of construction activity. A more detailed discussion of each phase of construction and associated duration is provided in the Project's Air Quality Study, provided as Appendix B1 to this SEIR.

As described above in Section 2.1.1, the Project would be required to comply with local and state regulatory requirements pertaining to construction emissions. Project-related construction activities would be required to comply with the San Diego County Grading, Clearing and Watercourse Ordinance (Ordinance No. 9547) to reduce the dispersion of dust. As required by the Grading, Clearing and Watercourse Ordinance, during construction of the Project, the Project applicant or master developer would be required to include a detailed and comprehensive list on grading and building plans of all construction emissions control measures that would be incorporated into the Project. In addition, the Project would be required to designate a person or persons as a "Permit Compliance Engineer" to monitor the dust control program and other construction emission reduction requirements. The Permit Compliance Engineer also shall order increased watering as necessary to prevent transport of dust offsite and will ensure that ground cover is replaced in disturbed areas as quickly as possible. In addition, the Project would be required to comply with the California Vehicle Code (CVC) Section 23114, which would require all trucks hauling dirt, sand, soil, or other loose materials to be covered with a tarp and maintain at least twelve inches of freeboard (i.e., minimum vertical distance between the top of the load and the top of the trailer). Compliance with CVC Section 23114 would be enforced by the California Highway Patrol.



Assuming a “worst case” scenario where equipment was operated on average for 8 hours per day (unless otherwise noted) and overlap in all construction phases (except demolition and grading), along with the assumptions as stated in the Air Quality Study (Appendix B1), the Project would exceed the SLTs for construction activity for emissions of NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. This is evaluated as a significant impact of Project development (**Significant Direct Impact AQ-1**). As presented in Table 2.1-5, *Summary of Construction Emissions*, following the incorporation of the mitigation measures presented in SEIR Section 2.1.5, impacts associated with NO<sub>x</sub> and PM<sub>2.5</sub> emissions would be reduced to below the thresholds of significance. As presented in Table 2.1-5, emissions of PM<sub>10</sub> would exceed the SLT following the incorporation of required mitigation; however, PM<sub>10</sub> emissions would only increase during Project construction by 0.72 micrograms per cubic meter at the maximum exposed individual, which is below the threshold of significance (*i.e.*, 5 micrograms per cubic meter). Accordingly, incorporation of mitigation measures presented in SEIR Section 2.1.5 would reduce impacts associated with PM<sub>10</sub> to below the threshold of significance..

### Long-Term Operational Impacts

Operational activities associated with the proposed Project would result in emissions of ozone precursors (also known as reactive organic gases, or ROG), NO<sub>x</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>x</sub>. Operational emissions would be expected from the following equipment and activities:

- Vehicle emissions
- Fugitive dust related to vehicular travel
- Combustion emissions associated with natural gas use
- Landscape maintenance equipment emissions
- Architectural Coatings

A more detailed discussion of each of these operational characteristics is provided in the Project’s Air Quality Study, provided as Appendix B1 to this SEIR.

The Project-related operations emissions burdens for each phase of Project development, along with a comparison of significance thresholds, are shown in Table 2.1-6 through Table 2.1-9, *Summary of Operational Emissions*. The estimated operational outputs are provided in Appendix “F” to the Project’s Air Quality Study (SEIR Appendix B1). As shown in Table 2.1-5 through Table 2.1-9, the Project-related emissions would exceed the County of San Diego thresholds of significance for emissions of VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> during each phase of the proposed Project, during both winter and summer months, and are attributed solely to vehicle emissions. This is evaluated as a significant impact of Project development (**Significant Direct and Cumulative Impact AQ-2**).

As further discussed under Section 2.1.2.4, *Sensitive Receptors*, long-term operational traffic associated with the proposed Project would not produce any CO “hot spots” for any study area intersections.

#### **2.1.2.4 Sensitive Receptors**

##### Guidelines for the Determination of Significance

The Project would have a significant adverse effect on air quality if implementation would:

- (3) *Expose sensitive receptors, including, but not limited to, schools, hospitals, residential care facilities, or day care centers, to substantial pollutant concentrations.*

Significance Threshold 2 was selected to address Section III.d of Appendix G of the State CEQA Guidelines. Pursuant to this threshold, construction or operational impacts are potentially significant if they result in an incremental cancer risk greater than 1 in 1 million without application of Toxics-BACT (T-BACT), or an incremental cancer risk greater than 10 in 1 million with application of T-BACT, or a health hazard index (chronic and acute) greater than one. The human health risk analysis is based on the time, duration, and exposures expected. This threshold also requires an evaluation of local area intersections to evaluate whether the Project would create or contribute to the formation of a CO “Hotspot,” which are pockets where the CO concentration exceeds the standards established by the NAAQS and/or CAAQS. These standards allow for a maximum CO concentration of 9.0 ppm averaged over 8 hours and/or 20.0 ppm over any 1-hour period.

#### Analysis of Project Impacts on Sensitive Receptors

Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, child care centers, and athletic facilities also are considered to be sensitive receptors. In evaluating impacts to sensitive receptors, the two primary emissions of concern are CO and diesel particulate matter. Each of these concerns is discussed below.

#### *Diesel-Fired Particulates and Carcinogenic Impacts – Construction Activities*

In order to assess the impact of particulate emissions throughout the surrounding community, air dispersion modeling using the U.S. EPA-approved SCREEN3 model was conducted. Please refer to the Air Quality Study (Appendix B1) for detailed information about inputs used in the SCREEN3 model for purposes of assessing carcinogenic impacts associated with construction activities.

Health risks associated with exposure to carcinogenic compounds are defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. The cancer risk probability is determined by multiplying the chemical’s annual concentration by its unit risk factor (URF). The URF is a measure of carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper-bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ( $\mu\text{g}/\text{m}^3$ ) over a 70-year lifetime.

To represent exposures accurately, an exposure frequency of 264 days and exposure duration of 198 days (0.5425 years) was assumed (rough grading is anticipated to last approximately nine months). For carcinogenic exposures associated with the maximum exposed individual (MEI), the risks were predicted to be 1.6E-07 (0.16 in one million), as summarized in Table 2.1-12, *Quantification of Carcinogenic Risks and Noncarcinogenic Hazards (Short-Term Construction Activity)*. Therefore, risk estimates do not exceed the County of San Diego threshold of one in one million. As such, the risk of exposing sensitive receptors to pollutant concentrations which could result in an increased cancer risk during construction activities is evaluated as a less than significant impact.

#### *Diesel-Fired Particulates and Carcinogenic Impacts – Long-Term Activities*

During long-term operation of the proposed Project, the Project would increase emissions of Toxic Air Contaminates (TACs) due to increased diesel truck trips to and from the site. TACs of greatest

concern include diesel particulate matter (DPM). Sensitive receptors located near the proposed Project site, including residents, schools, day care centers, hospitals, recreational areas, and nursing homes could be exposed to TACs through inhalation. A Health Risk Assessment (HRA) was conducted by Urban Crossroads to evaluate the Project's potential for exposing sensitive receptors to substantial pollutant concentrations during long-term operation of the Project. It should be noted that the methods utilized by Urban Crossroads in the HRA are conservative in nature and therefore likely overestimate the potential human health impacts.

The HRA assumes that the proposed Project would result in approximately 7,177 Passenger Car Equivalent (PCE) truck trips, or a total of 4,785 daily truck trips. Using guidance provided by the SDAPCD, the health risk was then calculated for the off-site point of maximum health impact (PMI), the maximally exposed individual resident (MEIR), and the maximally exposed individual worker (MEIW).

The results indicate that the excess cancer risk for the PMI, calculated on the basis of residential risk, is 110 in a million. This point is located just west of the Project site. In reality, no residences are proposed at this location, nor are any residents planned to be located in this area in the future. As such, there would be no significant impacts to the PMI resulting from long-term Project operation. Urban Crossroads also calculated the non-cancer chronic hazard index (HI) for the PMI. The resulting HI value of 0.075 is below the San Diego County's significance threshold of 1.0, and as such, long-term operation of the proposed Project would not result in a significant health hazard risk associated with the PMI.

The location of the MEIR was identified through a review of maps and aerial photographs conducted by Urban Crossroads. The MEIR for excess cancer risk is a cluster of residences located to the southwest of the proposed Project site across the Mexico border in Mexico. The incremental cancer risk predicted for the MEIR is 32.0 in a million, which exceeds the San Diego County DPLU's threshold of significance of 1.0 in 1 million (**Significant Direct Impact AQ-3**). The highest non-cancer chronic hazard index (HI) for the MEIR also was calculated at 0.021; however, this value is below the County's significance thresholds of 1.0, and non-cancer risks are therefore evaluated as less than significant.

The MEIW is assumed to be located just west of the proposed Project site. Because the land use where the MEIW occurs would not be residential, the worker exposure scenario is appropriate for this receptor to indicate a conservative risk to the MEIW. The results indicate that the excess cancer risk for the MEIW, calculated on the basis of the worker exposure duration, is 43.0 in a million. This exceeds the County of San Diego DPLU's threshold of significance of 1.0 per 1 million. As previously discussed, this point is located just west of the Project site, and in reality, no workers currently occupy this location. However, there is a potential for future workers to occupy this space. As such, the Project's operational impacts to the MEIW are evaluated as significant (**Significant Direct Impact AQ-4**). The highest non-cancer chronic health index calculated for the MEIW is 0.05, which is lower than the County's significance threshold of 1.0; as such, non-cancer risks to the MEIW are evaluated as less than significant.

In summary, the results indicate that particulate emissions generated from the Project have the potential to pose a significant health risk to sensitive receptors. However, for non-carcinogenic impacts, maximum exposures were predicted to be within acceptable limits. Refer to Appendix G of

the Project's Air Quality Study (SEIR Appendix B1) for a summary on the protocol utilized to evaluate impacts.

#### *CO Hotspot Analysis*

Air pollutant emissions related to Project traffic have the potential to create new air quality problems or worsen existing localized air quality. The California Department of Transportation (Caltrans) recommends the use of the California Line Source Roadway Dispersion Model (CALINE4) to assess localized CO concentrations. Model inputs used in the CALINE4 analysis were based on the Project's Traffic Impact Analysis (SEIR Appendix H). The CALINE 4 model generates CO concentrations averaged over a one-hour time period under worst-case atmospheric conditions, which include low wind speeds and low atmospheric circulation. Future CO concentrations were determined for the weekday peak time periods by adding the predicted increase in CO concentrations attributable to implementation of the proposed Project to an ambient CO concentration within the Project area. Table 2.1-13, *Cumulative With SR-905 With Project Conditions CO Hot Spot Levels*, summarizes the results of this analysis for both the 1-hour and 8-hour CO concentrations.

Based on the analysis, none of the six intersections analyzed are projected to experience CO levels in excess of the 1-hour allowable concentration of 20.0 ppm. The highest projected one-hour CO "hot spot" level is 10.8 ppm. The analysis also indicates that the intersection is not projected to experience CO levels in excess of the 8-hour allowable concentration of 9.0 ppm, as the highest predicted 8-hour concentration would be 5.73 ppm. As such, long-term operation of the proposed Project would not expose sensitive receptors to substantial pollutant concentrations of CO generated by Project traffic.

#### **2.1.2.5 Odors**

##### Guidelines for the Determination of Significance

The Project would have a significant adverse effect on air quality if implementation would:

- (4) *Create objectionable odors affecting a substantial number of people.*

APCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section §41700 prohibit the emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of the public. Projects required to obtain permits from APCD, typically industrial and some commercial projects, are evaluated by APCD staff for potential odor nuisance and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

Odor issues are very subjective by the nature of odors themselves and their measurements are difficult to quantify. As a result, this guideline is qualitative and each project will be reviewed on an individual basis, focusing on the existing and potential surrounding uses and location of sensitive receptors.

##### Analysis of Project Impacts from Odors

As noted previously in this section, sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, retirement homes, residences, schools, playgrounds, child care

centers, and athletic facilities. In evaluating odor impacts to sensitive receptors, the two primary emissions of concern are CO and diesel particulate matter.

Section 4.5 of the *County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Air Quality* (March 19, 2007), indicates that, in general, a Project would not result in a significant odor impact if the following conditions apply:

- The project does not place a new odor producing land use activity adjacent to existing sensitive receptors (e.g., wastewater treatment facilities);
- The project will not place sensitive receptors adjacent to or near a confined animal facility or other odor producing land use; and
- The project is not located near any other agricultural use with the potential to produce strong odors including, but not limited to, organic agricultural operations or agricultural operations that apply a substantial amount of agricultural chemicals that typically produce strong odors.

The proposed Project meets all three of the aforementioned criteria. Accordingly, Project implementation would not result in any significant odor impacts to nearby sensitive receptors.

### **2.1.3 Cumulative Impact Analysis**

#### ***2.1.3.1 Cumulative Impacts Identified by the EOMSP Final EIR***

The EOMSP Final EIR (1994) did not identify or disclose any cumulatively significant air quality impacts.

#### ***2.1.3.2 Project-Specific Cumulative Impact Analysis***

A study area was defined in order to assess the cumulative effect of the Project's impacts on air quality. The resulting study area encompassed the County of San Diego and City of San Diego portions of Otay Mesa, as depicted on Figure 2.1-1, *Cumulative Study Area – Air Quality*. With respect to the issue of air quality, this study area is appropriate because it encompasses an area of similar topographic conditions (i.e., flat mesa), and areas outside of Otay Mesa exhibit different characteristics in terms of existing air quality conditions, wind patterns, climate, etc. In addition, the cumulative study area encompasses Project study area roadway segments and intersections (for which Project-related traffic could contribute to off-site cumulative air quality levels) located throughout the Otay Mesa community. It should be noted that no cumulative study area is defined for the issue of Global Climate Change, due to the global nature of the issue.

#### **Construction Activity – Cumulative Effects**

Section 4.3 of the *County of San Diego Guidelines for the Determination of Significance and Report Format and Content Requirements, Air Quality* (March 19, 2007), indicates that the following guidelines must be used for determining the cumulatively considerable net increases during the construction phase:

- A project that has a significant direct impact on air quality with regard to emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and/or VOCs, would also have a significant cumulatively considerable net increase.

- In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern are in excess of the guidelines identified in SEIR Table 2.1-4.

For construction activity, the proposed Project complies with the first criterion as the Project is not expected to result in emissions that will result in a significant direct impact on air quality with regard to emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and/or VOCs (after the implementation of the mitigation measures identified for near-term construction in SEIR Section 2.1.5).

For the second criterion, impacts associated with NO<sub>x</sub> emissions are not anticipated to be cumulatively significant because the San Diego Air Basin already meets the attainment status for this criteria pollutant, and construction activities associated with the proposed Project and projects within the cumulative study area would not result in a violation of the regions attainment status even if construction activities were to occur simultaneously. Additionally, other projects in the cumulative study area would be required to demonstrate that the SLTs identified in Table 2.1-4 are not exceeded. Accordingly, cumulatively significant impacts associated with NO<sub>x</sub> emissions would not occur.

Additionally, Urban Crossroads conducted a review of cumulative projects in close proximity to the proposed Project's construction activities. According to the Project's Air Quality Study (Appendix B1), fugitive PM<sub>10</sub> concentrations decrease by 90% at a distance of 50 meters (165 feet) from the source. At 100 meters (330 feet), PM<sub>10</sub> concentrations decrease by 99%, and beyond 100 meters concentrations approach zero. No cumulative contribution of PM<sub>10</sub> beyond 150 meters would be physically possible. For PM<sub>10</sub> (fugitive dust) the Otay Crossing Commerce Park and the Rapid Transfer Express projects were identified as having the potential to be within a quarter (1/4) mile distance of the proposed Project's construction activities. The Otay Crossings Commerce Park is identified as having significant and unmitigable near-term construction-related air quality impacts.

Furthermore, emissions associated with construction activity are by nature short-term in duration. More specifically, PM<sub>10</sub> emissions tend to settle out in close proximity to the source. For purposes of analysis, the source was assumed to comprise the grading area which the Project is expected to disturb on any given day. Thus, in order for even the potential for cumulative PM<sub>10</sub> impacts to occur, simultaneous construction/grading would need to occur on both a parcel of the proposed Project site and on another parcel that is located directly adjacent (i.e., within 150 meters) to the Project site. Therefore, the likelihood of a cumulatively considerable contribution to PM<sub>10</sub> from the proposed Project in conjunction with adjacent projects is highly unlikely.

Additionally, mitigation measures imposed for the proposed Project (SEIR Section 2.1.5) would remain applicable, and other cumulative projects would similarly need to comply with local ordinances prohibiting nuisances or requiring dust control. These measures would further reduce the cumulative effect of fugitive PM<sub>10</sub> emissions.

Finally, the Project would not result in cumulatively significant emissions of VOCs during construction. Although a dispersion model for VOCs was not conducted for the proposed Project, according to the Project's air quality consultant the dispersion of VOCs would be similar to that identified above for PM<sub>10</sub>. Specifically, it is unlikely that simultaneous construction would occur in

close proximity to construction activities on the proposed Project site, and mitigation measures already have been incorporated to reduce the Project's emission of VOCs during construction. Moreover, emission of VOCs during construction would occur over a relatively short period of time and is not likely to contribute to the non-attainment status for this pollutant. Accordingly, with incorporation of the mitigation measures identified in EIR Section 2.1.5.2, cumulatively significant impacts associated with VOC emissions would not occur.

Accordingly, and based on the aforementioned analysis and criteria, with exception of Project impacts due to GHG emissions during construction, the proposed Project would not result in a cumulatively considerable impact during short-term construction activity (after the implementation of the mitigation measures identified in SEIR Section 2.1.5).

#### Long-Term Operation – Cumulative Effects

Section 4.3 of the *County of San Diego Guidelines for the Determination of Significance and Report Format and Content Requirements, Air Quality* (March 19, 2007), indicates that the following guidelines must be used for determining the cumulatively considerable net increases during the operational phase:

- A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub>, and/or VOCs would also have a significant cumulatively considerable net increase.
- Projects that cause road intersections or roadway segments to operate at or below a LOS E and create a CO “hotspot” create a cumulatively considerable net increase of CO.

County guidelines state further that it is assumed that a project which conforms to the County of San Diego General Plan, and does not have emissions exceeding the SLTs, will not create a cumulatively considerable net increase in criteria pollutants since emissions were accounted for in the RAQS.

For operational activity, the proposed Project does not comply with the first criterion listed above because the Project is anticipated to result in a significant direct impact on air quality with regard to emissions of VOCs, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. The Project, however, is consistent with SANDAG growth projections for the Project area and hence is consistent with the RAQS forecast for emissions of VOCs and NO<sub>x</sub> (ozone precursors).

The approach for assessing cumulative operational impacts is based on the SDAPCD's RAQS forecast of attainment of the ambient air quality standards in accordance with the requirements of the federal and state CAAQs. The forecast also takes into account SANDAG's forecasted future regional growth. As such, the analysis of cumulative impacts focuses on determining whether the Project is consistent with future regional growth. If a project is consistent with the regional population, housing, and employment growth assumptions upon which the RAQS is based, then future developments would not impede the attainment of ambient air quality standards and a significant cumulative impact would not occur. As previously discussed, the proposed Project would be consistent with the RAQS forecasts. As such, Project implementation would not obstruct the implementation of the RAQS, and cumulatively significant impacts would not occur.

Although only five projects are identified in Table 1-7 as having significant cumulative long-term air quality impacts, including two projects with significant and unmitigable impacts, the planned or reasonably foreseeable projects throughout the study area would account for an addition of approximately 345,889 daily trips. Based on the Project's Traffic Impact Analysis (SEIR Appendix H), the cumulative projects plus the Project-related traffic can cause increased delays (LOS E or worse) at the intersections previously described in Table 2.1-13. However, based on the results of an analysis performed by Urban Crossroads, it was determined that no CO "hotspots" are expected; as such, Project implementation would not result in the exposure of sensitive receptors to excessive CO concentrations, and the Project would not contribute to a localized violation of the standards set forth by the CAAQS and/or NAAQS. Cumulatively significant impacts would not occur.

However, even after the implementation of the recommended mitigation measures (SEIR Section 2.1.5), based on County of San Diego significance thresholds, the Project exceeds SLTs for emissions of VOCs, PM<sub>2.5</sub> and PM<sub>10</sub> and the Project would result in a cumulatively significant impact during long-term Project operation (**Significant Direct and Cumulative Impact AQ-2**).

### Global Climate Change

#### Guidelines for the Determination of Significance

The Project would have a significant adverse effect on GHG emissions if implementation would:

- (5) *Fail to achieve a 25% reduction in energy consumption beyond that required by Title 24, Part 6, of the California Code of Regulations (2006).*

On March 18, 2010, a number of amendments to the State CEQA Guidelines took effect. These amendments were in direct response to Senate Bill 97 of 2008 requiring the California Natural Resources Agency to provide instructions regarding greenhouse gas (GHG) emissions to lead agencies through amendments to the CEQA Guidelines by January 1, 2010. The amendments were adopted by the Natural Resources Agency December 30, 2009 and submitted to the Office of Administrative Law which certified the amendments. Of note, the new guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology, or in the alternative, rely on a qualitative analysis or performance based standards. New CEQA Guideline § 15064.4(a) provides that, "A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance based standards."

The CEQA Guideline amendments do not identify a numeric threshold of significance for greenhouse gas emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a "good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

The CEQA Initial Study Checklist was also amended to include the following questions with respect to Greenhouse Gas Emissions.



Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Based on the memorandum Industrial Use / East Otay Mesa Specific Plan DPLU Interim Guidance for Greenhouse Gas (GHG) Analysis, Dated January 15, 2010: Until further direction is provided by the State, the County's interim guideline for determining significance is whether the project would conflict with implementation of AB32, the Global Warming Solutions Act of 2006. To demonstrate the project will not conflict with implementation of AB32, the project needs to demonstrate the following:

- Light Industrial / Non-Stationary Source Uses: The project would reduce overall carbon emissions to 25% below business as usual. The 25% reduction should be an overall reduction for operational emissions, construction-related emissions and vehicular-related emissions.
- Heavy Industrial / Stationary Uses: Until the County of San Diego establishes its own significance threshold for Heavy Industrial / Stationary Source Uses, applicants should rely on the 10,000 metric tons of CO<sub>2</sub> (or equivalent) per year threshold, identified by the South Coast Air Quality Management District (SCAQMD). The 10,000 metric ton threshold was found to capture more than 90% of emissions from stationary source projects in the South Coast air basin. The County is working towards establishing a threshold that is specifically suited to conditions in the San Diego region.
- All uses: Since construction-related GHG emissions are for a limited period of time, construction-related GHG emissions should be amortized over a 30-year period and added to the operational emissions.

Business as usual is defined as emissions that would be generated prior to AB 32-related emission restrictions beginning in 2006 (e.g., 2005 Title 24 building standards). For purposes of this analysis, the project is classified as a Light Industrial / Non-Stationary Source Use and therefore the applicable threshold identified for Light Industrial / Non-Stationary Source Uses applies as follows:

- *The project would reduce overall carbon emissions to 25% below business as usual. The 25% reduction should be an overall reduction for operational emissions, construction-related emissions and vehicular-related emissions.*

#### Analysis of Project Impacts on Global Climate Change

As any individual development project would not generate enough GHG emissions to significantly influence the global climate, the issue of global climate change is by definition a cumulative issue. Furthermore, this EIR cannot rely upon a list of projects or a summary of projections to establish a local cumulative study area, as climate change is an issue with a global scope and impacts would not be confined to a local area. Therefore, the Project's cumulative effect to global climate change is evaluated against the GHG-reduction mandates of AB32, which were established by the California State Legislature to minimize the impact of GHG emissions within the state.

GHG emissions associated with the development and operation of the proposed Project were estimated for the following five categories: (1) increases in emissions from short-term construction activity (fossil-fuel consumption); (2) increase in emissions from electricity generation to provide power to project uses; (3) increase in emissions from natural gas use for project uses; (4) increase in emissions from water consumption for project uses; and (5) increase in emissions from vehicular-exhaust emissions from daily vehicular activity as a result of the project.

#### *Greenhouse Gas Emissions during Construction*

During the construction phase of the project, GHG emissions would be released through the burning of fossil-fuel in construction equipment. Table 2.1-10, *Construction Greenhouse Gas Emissions*, summarizes GHG emissions by construction phase. Please refer to the Project-specific Greenhouse Gas Emissions Inventory (SEIR Appendix B2) for detailed information about the methods used to calculate the values presented in Table 2.1-10. It should be noted that the unmitigated emissions values presented in Table 2.1-10 assume that no recycling would occur during construction activities. However, the County has an ordinance in effect that requires that 90% of inerts and 70% of all other materials must be recycled during construction (refer to Sections 68.508 through 68.518 of the County Code of Regulatory Ordinances). Compliance with these requirements is not assumed in the calculation of post-mitigation GHG emission levels presented in Table 2.1-10.

Although there are no established thresholds of significance against which to evaluate the significance of construction-related GHG emissions, the values presented in Table 2.1-10 demonstrate that Project-related construction activities would result in substantial emissions of CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub>, all of which are GHGs. Specifically, prior to mitigation, Project construction emissions would amount to approximately 13,837.98 metric tons of CO<sub>2</sub>EQ over the life of the Project, or approximately 461.26 metric tons of CO<sub>2</sub>EQ per year when amortized over a 30-year horizon. Therefore, prior to mitigation, Project-related emissions of GHGs during construction are evaluated as a near-term significant impact on a cumulative basis (**Cumulative Impact AQ-5**).

#### *Operational Greenhouse Gas Emissions*

Another substantial source of GHG emissions is the combustion of fossil fuels for electricity production, cooking, and heating. While not released on-site, increased GHG emissions resulting from the added electrical demands of the project will be created, since electricity is often generated through the burning of coal, oil, or natural gas. Also, GHG will be released through project natural gas use.

Emissions of GHG also would occur as a result of Project water consumption. Water use and energy consumption are closely linked, especially in southern California, where water supplies are limited and a significant portion of the water supply must be imported. Large amounts of energy are required for the conveyance, treatment, distribution, and end use of water, as well as wastewater treatment.

Table 2.1-11, *Total Operational Greenhouse Gas Emissions*, summarizes GHG emissions for project operations resulting from project energy use, water use, and natural gas consumption (i.e., “area source emissions”). The Project’s Greenhouse Gas Emissions Inventory (SEIR Appendix B2) contains the detailed Project calculations. As previously noted, detailed site/building plans are not available at this time and would require evaluation in the future to determine whether the Project achieves the objectives of AB 32. Absent detailed site/building plans, it cannot be demonstrated that

the proposed Project would achieve a 25% reduction in energy consumption beyond that required by Title 24, Part 6, of the California Code of Regulations (2005). Although there are no established thresholds of significance for Project-related area source emissions, this SEIR makes a good-faith determination based on the information reasonably available as to the Project's contribution to GCC impacts due to area source emissions. Because it cannot be demonstrated at this time that the Project would achieve a 25% reduction in area source emissions, and because it therefore cannot be demonstrated that the Project would achieve the objectives of AB 32 for area source emissions, long-term area source emissions attributable to the Project are evaluated as a significant cumulative impact (**Cumulative Impact AQ-6**).

#### *Mobile Source GHG Emissions*

The majority of GHG emissions associated with the daily Project operations are the result of increased project-related motor vehicle activity. Emissions for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O were calculated using trip generation rates available in the Project's Traffic Impact Study (SEIR Appendix H).

In order to obtain accurate forecasts of GHG emissions resulting from the project, emissions were calculated for both summer and winter temperatures of 85°F and 40°F, respectively, consistent with the default temperatures utilized in the URBEMIS 2007 model. Table 2.1-11 summarizes GHG emissions resulting from project-related traffic. The Project's Greenhouse Gas Emissions Inventory (SEIR Appendix B2) contains the detailed Project calculations.

As previously noted, detailed site/building plans are not available at this time and would require evaluation in the future to determine whether the Project achieves the objectives of AB 32. Nonetheless, and in accordance with the CEQA, this SEIR makes a good-faith determination based on the information readily available as to the Project's contribution to GCC impacts resulting from mobile source emissions. According to the Project-specific Mobile Source Health Risk Assessment (Appendix B3), the proposed Project would result in approximately 7,177 passenger car equivalent (PCE) truck trips, or a total of 4,785 truck trips, at full buildout. As shown in Table 2.1-11, these expected trips are conservatively estimated to result in a total of 98,591.45 metric tons per year (mtpy) of CO<sub>2</sub> equivalent emissions in Phase 1; 175,088.89 mtpy of CO<sub>2</sub> equivalent emissions in Phase 2; 255,870.43 mtpy of CO<sub>2</sub> equivalent emissions in Phase 3; and 327,132.94 mtpy of CO<sub>2</sub> equivalent emissions in Phase 4. In the absence of measures to reduce the Project's mobile source emissions, Project-related emissions may result in significant cumulative GHG-related impacts notwithstanding the reduction of area source emissions to 25% below Title 24 requirements. However, the San Diego County Greenhouse Gas Inventory (prepared by the University of San Diego Energy Policy Initiative Center) estimates that implementation of AB 1493, or the Pavley Bill, will reduce light-duty passenger vehicle emissions in California by 21% by 2020. Implementation of the Low Carbon Fuel Standard (LCFS) would add another 10% reduction in GHG emissions from fuel use by 2020. These regulatory actions would apply to vehicles and fuels associated with the Project and would ensure that mobile source emissions associated with vehicles accessing the Project would be reduced by 31%. Therefore, since the Project's mobile source emissions would be reduced by 31% with implementation of AB 1493 and the LCFS, the Project's mobile source GHG emissions are evaluated as less than significant.

### 2.1.4 Significance of Impacts Prior to Mitigation

Significant Direct Impact AQ-1: During construction activities, emissions from the site would exceed the SLTs for construction activity for emissions of NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

Significant Direct and Cumulative Impact AQ-2: During long-term operation of the proposed Project, Project-related emissions would exceed the County of San Diego thresholds of significance for emissions of VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> during each phase of the proposed Project and during both winter and summer months, as presented in SEIR Table 2.1-6 through Table 2.1-9.

Significant Direct Impact AQ-3: Long-term operation of the proposed Project would result in an incremental cancer risk of 32.0 in a million for the maximally exposed individual resident (MEIR), located southwest of the proposed Project site across the Mexico border. This increase in incremental cancer risk exceeds the County DPLU's threshold of 1.0 per 1 million.

Significant Direct Impact AQ-4: Long-term operation of the proposed Project would result in an incremental cancer risk of 43.0 in a million for the maximally exposed individual worker (MEIW), which exceeds the County DPLU's threshold of 1.0 per 1 million.

Significant Cumulative Impact AQ-5: Although there are no established thresholds of significance against which to evaluate the significance of construction-related GHG emissions, the values presented in Table 2.1-10 demonstrate that Project-related construction activities would result in substantial emissions of CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub>, all of which are GHGs.

Significant Cumulative Impact AQ-6: Absent detailed site/building plans, it cannot be demonstrated that the proposed Project would achieve a 25% reduction in energy consumption beyond that required by Title 24, Part 6, of the California Code of Regulations (2005). Because it cannot be demonstrated at this time that the Project would achieve a 25% reduction in area source emissions, and because it therefore cannot be demonstrated that the Project would achieve the objectives of AB 32 for area source emissions, long-term area source emissions attributable to the Project are evaluated as a significant cumulative impact.

### 2.1.5 Mitigation

#### 2.1.5.1 Mitigation Measures from the EOMSP Final EIR

Mitigation measures were identified by the EOMSP Final EIR (1994) to address impacts to air quality resulting from construction and long-term operation of the uses identified by the EOMSP, and included the following:

- 9A. *The County shall require applicants to use several techniques to reduce potentially significant construction emissions.*
- 9B. *Development projects shall provide bicycle facilities to promote use of alternative transportation methods.*
- 9C. *The County shall coordinate with appropriate agencies to implement reduction of vehicle emissions.*

These mitigation measures have been incorporated into the Project-specific mitigation requirements set forth in SEIR Section 2.1.5.2 as necessary and appropriate to reduce Project-specific air quality impacts to less than significant levels.

### **2.1.5.2 Project-Specific Mitigation**

This section incorporates feasible mitigation scenarios that could avoid, minimize, rectify and/or reduce over time, each of the significant environmental effects identified in the above sections.

#### **M-AQ-1a Direct Construction Impacts**

**Intent:** In order to lower construction emissions of PM<sub>10</sub> and PM<sub>2.5</sub> to below the County's established Screening Level Thresholds (SLTs) for construction activities, grading monitoring and emission reduction activities shall occur. **Description of Requirement:** Grading Plans shall be prepared, which clearly describe the grading monitoring and emission reduction activities that shall be undertaken during earthmoving activities to implement Section 87.428 "Dust Control Measures" of the County's Grading Ordinance. The Grading Plans shall include the following:

- The Permit Compliance Engineer (as defined in Section 87.420 of the County Grading Ordinance) shall provide documentation/evidence of compliance with each note in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.
- "During grading and ground-disturbing construction activities, the Permit Compliance Engineer shall assure that water trucks or sprinkler systems apply water to areas undergoing active ground disturbance a minimum of three (3) times daily (3.2 hour watering interval). All areas of disturbed soils shall be kept damp enough to prevent airborne dust from dispersing beyond the boundaries of the site. The Permit Compliance Engineer shall order increased watering frequency when airborne dust is visible. A log of all site watering activities shall be maintained by the Permit Compliance Engineer, and this log shall be made available to the County upon request."

Reporting: the Permit Compliance Engineer shall maintain a log of daily site watering activities, and shall be provided to the County upon request. The site watering log also shall be provided in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.

- "The Permit Compliance Engineer shall assure that temporary signs indicating a maximum 15 MPH speed limit are placed along all unpaved roads and/or unpaved haul routes on the Project site, before construction activities commence. Signs shall be spaced no more than 1,000 lineal feet apart. The Permit Compliance Engineer also shall be responsible for assuring radar enforcement of the 15 MPH speed limit throughout the duration of construction activities."

Reporting: The Permit Compliance Engineer shall provide evidence of sign installation by including photographs of the installed signs and a scaled diagram or copy of the grading plan, identifying the location of each sign, in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.

- “A gravel apron measuring at least 25 feet long by road width shall be provided at all unpaved entrances into the construction site and shall be maintained until the entrance is removed, paved, or no longer in use by construction vehicles and equipment.”

Reporting: The Permit Compliance Engineer shall include photographs of all constructed gravel aprons in the regular reports required pursuant to Section 87.420(a) of the County’s Grading Ordinance.

- “The Permit Compliance Engineer shall ensure that all grading, earthmoving, and ground-disturbing construction activities are temporarily halted when sustained wind speeds exceed 25 MPH.”

Reporting: The Permit Compliance Engineer shall maintain a log of all work days and time durations when grading, earthmoving, and ground-disturbing construction activities were temporarily halted due to sustained wind speeds exceeding 25 MPH. The log shall be provided in the regular reports required pursuant to Section 87.420(a) of the County’s Grading Ordinance.

- “The Permit Compliance Engineer shall ensure that street sweeping of adjacent public roads occurs at the end of each work day that visible soil material is carried onto paved roads and at least once every two weeks. A log of all street sweeping activities shall be maintained by the Permit Compliance Engineer and shall be made available to the County upon request”

Reporting: The Permit Compliance Engineer shall maintain a log of all street sweeping activities, and shall be provided to the County upon request. The log also shall be provided in the regular reports required pursuant to Section 87.420(a) of the County’s Grading Ordinance.

- “The Permit Compliance Engineer shall assure that chemical dust suppressants are applied at least once per year to all designated unpaved parking areas used by construction workers and/or construction equipment.”

Reporting: The regular reports required pursuant to Section 87.420(a) of the County’s Grading Ordinance shall include a map depicting the locations of all designated construction parking areas, a description of the chemical suppressants utilized, and the date(s) of application.

- “The Permit Compliance Engineer shall ensure that rough grading activities do not overlap with other phases of construction (i.e., paving, underground, building, and architectural coatings). A schedule of such activities shall be maintained by the Permit Compliance Engineer, and shall be made available to the County upon request.”

Reporting: A copy of the construction schedule shall be included in the regular reports required pursuant to Section 87.420(a) of the County’s Grading Ordinance. Construction schedules also shall be provided to the County for review upon request.

**Documentation:** The applicant shall prepare the Grading Plan pursuant to this mitigation measure and then shall submit it to the Department of Public Works, along with payment of all applicable review fees and deposits. In addition, the Permit Compliance Engineer shall provide the Department of Public Works with evidence of compliance with this mitigation measure in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance, and shall make such evidence available when requested by the County. **Timing:** Prior to the approval of each grading permit. **Monitoring:** The Department of Public Works shall review the Grading Plan for conformance with this mitigation measure. Upon approval of each Grading Plan, a decision of approval and a grading permit shall be issued to the applicant.

#### M-AQ-1b **Direct Construction Impacts**

**Intent:** In order to lower construction emissions of NO<sub>x</sub> to below the County's established Screening Level Thresholds (SLTs) for construction activities, emission reduction activities shall occur. **Description of Requirement:** Grading Plans shall be prepared, which clearly describe the emission reduction activities that shall be undertaken during construction activities to reduce construction vehicle and equipment emissions of NO<sub>x</sub>. The Grading Plan shall include the following:

The Permit Compliance Engineer (as defined in Section 87.420 of the County Grading Ordinance) shall provide documentation/evidence of compliance with the note in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.

- "The Permit Compliance Engineer shall verify that all construction equipment and vehicles are properly tuned and maintained in accordance with manufacturers' recommendations, to ensure proper timing and tuning of engines."

Reporting: Construction equipment and vehicle maintenance records and their design specification data sheets shall be provided in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance.

- "The Permit Compliance Engineer shall instruct all diesel-fueled construction vehicle and equipment operators to restrict idling times to five minutes and to turn off engines when vehicles and equipment are not in use. The Permit Compliance Engineer shall be responsible for enforcing this requirement during all construction activities."

**Documentation:** The applicant shall prepare the Grading Plan pursuant to this mitigation measure and then shall submit it to the Department of Public Works, along with payment of all applicable review fees and deposits. **Timing:** Prior to the approval of each grading permit. **Monitoring:** The Department of Public Works shall review the Grading Plan for conformance with this mitigation measure. Upon approval of each Grading Plan, a decision of approval and a grading permit shall be issued to the applicant.

#### M-AQ-2 **Long Term Operational Impacts**

Mitigation Measures M-AQ-3a, M-AQ-3b, M-AQ-3c, and M-AQ-6 shall apply.

**M-AQ-3a Sensitive Receptors Impacts - Residences**

**Intent:** In order to mitigate long-term operational impacts to off-site sensitive receptors due to diesel exhaust emissions, the Project shall incorporate design measures to reduce the incremental carcinogenic risk associated with Project implementation. **Description of Requirement:** For buildings with truck yards or loading docks, the County DPLU shall ensure that the Site Plans require the placement of signs at all truck parking and loading bay areas to identify applicable California Air Resources Board (CARB) anti-idling regulations. Each sign shall include the text “*Extended Idling of Truck Engines is not Permitted,*” and give directions to truck parking spaces with electrical hookups. **Documentation:** The applicant shall prepare the Site Plan(s) pursuant to this mitigation measure and in accordance with DPLU Form #506, *Applicant’s Guide to Site Plan*. The applicant shall submit the Site Plans to the Department of Planning and Land Use, along with all applicable review fees and deposits. **Timing:** Pursuant to Section 3.3.1 of the EOMSP, review for compliance with this mitigation measure shall occur prior to approval of future Site Plans for the site. Evidence of sign installation shall occur prior to issuance of a certificate of occupancy. **Monitoring:** The Department of Planning and Land Use shall review the Site Plans for conformance with this mitigation measure. In addition, evidence of sign installation shall be provided to the County DPLU prior to the issuance of a certificate of occupancy.

**M-AQ-3b Sensitive Receptors Impacts - Residences**

**Intent:** In order to mitigate long-term operational impacts to off-site sensitive receptors due to diesel exhaust emissions, the Project shall incorporate design measures to reduce the incremental carcinogenic risk associated with Project implementation. **Description of Requirement:** For buildings with truck yards and/or loading docks, the County DPLU shall review the parking lot striping and security gating plan to ensure that the site design allows for adequate truck stacking at gates and allows for trucks to park overnight on the site to prevent queuing of trucks outside the facility. **Documentation:** The applicant shall prepare the Site Plan(s) pursuant to this mitigation measure and in accordance with DPLU Form #506, *Applicant’s Guide to Site Plan*. The applicant shall submit the Site Plans to the Department of Planning and Land Use, along with all applicable review fees and deposits. **Timing:** Pursuant to Section 3.3.1 of the EOMSP, review for compliance with this mitigation measure shall occur prior to approval of future Site Plans for the site. **Monitoring:** The Department of Planning and Land Use shall review the Site Plans for conformance with this mitigation measure.

**M-AQ-3c Sensitive Receptors Impacts - Residences**

**Intent:** In order to mitigate long-term operational impacts to off-site sensitive receptors due to diesel exhaust emissions, the Project shall incorporate design measures to reduce the incremental carcinogenic risk associated with Project implementation. **Description of Requirement:** Any buildings that would receive shipping container refrigerator units (RUs) shall provide electrical hookups at all loading dock door positions. The locations of the electrical hookups shall be indicated on construction drawings and building plans and shall be subject to approval by the County DPLU. **Documentation:** The applicant shall prepare the Site Plan(s) pursuant to this mitigation measure and in accordance with DPLU Form #506, *Applicant’s Guide to Site Plan*. The applicant shall submit the Site Plans to the Department of Planning and Land Use, along with all applicable review fees



and deposits. **Timing:** Pursuant to Section 3.3.1 of the EOMSP, review for compliance with this mitigation measure shall occur prior to approval of future Site Plans for the site. Evidence of installed electrical hookups shall occur prior to issuance of a certificate of occupancy. **Monitoring:** The Department of Planning and Land Use shall review the Site Plans for conformance with this mitigation measure. In addition, evidence of installed electrical hookups shall be provided to the County DPLU prior to the issuance of a certificate of occupancy.

**M-AQ-4 Sensitive Receptors Impacts – Workers**

Mitigation Measures M-AQ-3a through M-AQ-3c shall apply.

**M-AQ-5a Construction GHG Impacts**

**Intent:** Construction equipment shall utilize biodiesel fuels, when feasible, to reduce GHG emissions that would occur during construction. **Description of Requirement:** Grading Plans shall be prepared for implementation of the project. Each grading plan shall clearly note the Project's requirement to use biodiesel fuels during construction. Each Grading Plan shall include the following note:

- *“With the exception of equipment used for asphalt paving, trenching, and off-site improvements, all diesel-powered construction equipment shall use B20 biodiesel fuel (comprising a minimum of 20% biodiesel) for the duration of construction activities. Any construction equipment whose warranty would be voided upon the use of B20 biodiesel fuel shall be exempt from this requirement. The County DPLU may exempt additional pieces of equipment from this requirement upon written request from the Permit Compliance Engineer documenting a valid technical, economic, or physical reason why the use of B20 biodiesel fuel cannot be used. This requirement shall only apply if B20 biodiesel fuel is available within 15 roadway miles from the proposed Project site at the time construction activities commence.”*

**Reporting:** The Permit Compliance Engineer shall include evidence of the use of B20 biodiesel fuel in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance, or shall provide evidence that B20 biodiesel fuel is not available within 15 roadway miles of the proposed Project site.

**Documentation:** The applicant shall prepare the Grading Plan pursuant to this mitigation measure and then shall submit it to the Department of Public Works, along with payment of all applicable review fees and deposits. **Timing:** Prior to the approval of each grading permit. **Monitoring:** The Department of Public Works shall review the Grading Plan for conformance with this mitigation measure. In addition, the Permit Compliance Engineer shall include evidence of the use of B20 biodiesel fuel in the regular reports required pursuant to Section 87.420(a) of the County's Grading Ordinance, or shall provide evidence that B20 biodiesel fuel is not available within 15 roadway miles of the proposed Project site.

**M-AQ-5b Construction GHG Impacts**

Mitigation Measure M-AQ-6 shall apply.

**M-AQ-6 Operational GHG Impacts**

**Intent:** In order to mitigate for impacts related to long-term GHG emissions, design measures shall be incorporated into future site plans to achieve the objectives of AB 32.

**Description of Requirement:** Implementing Site Plans shall include design measures to reduce long-term, operational GHG emissions by 25% below Title 24 requirements. The Site Plans shall incorporate the following:

The following measures are intended to provide alternative mitigation options for future Site Plan applications. It is intended that future implementing Site Plans would only be required to comply with either Option 1 or Option 2, and not both. In addition, as either option would achieve the targeted reductions of Area Source Greenhouse Gas Emissions<sup>1</sup>, it is intended that future Site Plan applicants would be allowed to choose between Option 1 or Option 2.

- **Option 1**

To reduce the Project's energy needs and fossil fuel consumption, thereby reducing GHG emissions, future building design shall follow the United States Green Building Council's LEED Green Building Rating System, Version 3.0, "Core and Shell." Each building shall achieve the minimum number of points to achieve LEED Certified status (minimum of 40 points)<sup>3</sup>. Although each building would be designed to achieve the minimum number of points to achieve LEED Certified status, the Project Applicant is not required to seek official LEED certification through the United States Green Building Council. A list of design features and their point allocations shall be prepared by a LEED Accredited Professional architect, following the LEED checklist criteria, and shall be submitted to the County DPLU in conjunction with Site Plan and Building Permit applications.

**OR**

- **Option 2**

Prior to the approval of future Site Plans for any lots within TM5505, the Project applicant shall prepare a subsequent Greenhouse Gas Emissions Inventory Analysis report to identify measures incorporated into the Site Plan's design to reduce emissions of area-source Greenhouse Gases. The report shall identify measures that are physically and economically feasible to implement in the Site Plan design in order to achieve a performance standard of at least a 25% reduction of area source Greenhouse Gas emissions as compared to the 2005 Title 24 requirements.

The Greenhouse Gas Emissions Inventory Analysis report shall cite references that estimate Greenhouse Gas emissions reductions associated with Site Plan design

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<sup>1</sup> News Release, United States Green Building Council, April 3, 2008. The New Building Institute (NBI) validated that third party LEED certified buildings outperform non-LEED certified buildings. In the NBI study, the results indicate that new buildings certified under the USGBC LEED certifications systems are, on average, performing 25-30% better than non-LEED certified buildings in terms of energy use. (<http://www.usgbc.org/Docs/News/NBI%20and%20CoStar%20Group%20Release%20040108.pdf>)

features, and shall provide emission reduction credits for those design features that result in quantifiable reductions of Greenhouse Gas Emissions.

Examples of measures that would serve to assist in achieving the 25% GHG reduction target / performance standard may include, but shall not be limited to, the following (it being understood that certain of the measures described in the bullets below may be adopted by the Project applicant, to the extent such measures are found to be physically and economically feasible, in order to achieve the reductions specified above, and that not all or any such measures need to be adopted, and that other feasible measures not listed below may be adopted, as long as the above performance standard is met):

- Design buildings to use natural systems to reduce energy use. Locate and orient buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.
- Design buildings to maximize water efficiency and reduce water use (excluding irrigation) beyond the Energy Policy Act of 1992 guidelines for fixture performance. This measure is expected to reduce GHG emissions associated with water conveyance by approximately 28-30%<sup>2</sup>.
- Provide interior and exterior collection and storage areas for recyclables and green waste, in locations that are easily accessible to employees and visitors. The location of such storage areas shall be clearly labeled on future Site Plans. This will reduce the amount of waste generated by building occupants and hauled to and disposed of in landfills<sup>3</sup>.
- For site lighting, the project's power density shall be more efficient than required by Title 24 as specified by LEED Energy & Atmosphere Credit 1. The amount of GHG reductions shall be calculated for the specific site lighting elements proposed as a part of future site plans pursuant to this standard, and shall be documented in the Greenhouse Gas Emissions Inventory Analysis report.
- For warehouse lighting, use T5HO lighting fixtures providing that general lighting will be more efficient than required by Title 24 as specified by LEED Energy & Atmosphere Credit 1. The amount of GHG reductions shall be calculated for the specific warehouse lighting elements proposed as a part of future site plans pursuant to this standard, and shall be documented in the Greenhouse Gas Emissions Inventory Analysis report.

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<sup>2</sup> The use of HET and EPA Certified WaterSense labeled faucets will result in a 30% reduction in water use from BAU conditions. Based on the LEED ® for New Construction Reference Guide, the typical flowrate for a water closet is 1.6 gallons per flush, for a low-flow water closet the flowrate is 1.1 gallons per flush which is an approximate 30% reduction in water usage. Additionally, a conventional kitchen sink has a flowrate of 2.5 gallons per minute and a conventional shower has a flowrate of 2.5 gallons per minute; the low-flow kitchen sink has a flowrate of 1.8 gallons per minute and the low-flow shower has a flowrate of 1.8 gallons per minute this is an approximate 28% reduction in water usage.

<sup>3</sup> This measure is consistent with the County of San Diego's Recycling Ordinance (Section 68.501 et seq. of the San Diego County Code of Regulatory Ordinances). Since the County's Recycling Ordinance exceeds the requirements of Title 24, GHG emission reductions above and beyond Title 24 requirements may be credited towards the Project's requirement to achieve a 25% reduction in emissions.

- Install motion sensors on office lighting so that efficiency will be more efficient than required by Title 24 as specified by LEED Energy & Atmosphere Credit 1. The amount of GHG reductions shall be calculated for the specific motion sensors proposed as a part of future site plans pursuant to this standard, and shall be documented in the Greenhouse Gas Emissions Inventory Analysis report.
- Install skylights and energy efficient lighting that exceeds California Title 24 standards where feasible, including electronic dimming ballasts and computer-controlled daylight sensors for office lighting.
- Install exterior signage, traffic, and other outdoor lighting that utilizes light-emitting diode (LED) lighting that is approximately 70 percent more efficient than fluorescent signage.
- Use light colored “cool” roofs, cool pavements, and strategically placed shade trees.
- Require orientation of buildings to maximize passive solar heating during cool seasons, avoid solar heat gain during hot periods, enhance natural ventilation, and promote effective use of daylight. Building orientation, wiring, and plumbing should optimize and facilitate opportunities for on-site solar generation and heating.
- Limit the hours of operation of outdoor lighting as specified to meet LEED Energy & Atmosphere Credit 1.
- Install the photovoltaic cells (solar panels) or “thin film” on roofs and parking lots (which can provide added benefits of shading vehicles) as specified by LEED Energy & Atmosphere Credit 2 to off-set the Project’s energy consumption. If the energy conservation measures implemented do not reduce GHG emissions by 25%, solar panels shall be installed to fulfill the remainder of the 25% requirement.

The Greenhouse Gas Emissions Inventory Analysis report shall only give emission reduction credits to those design features that are depicted on Site Plans or where evidence of compliance can otherwise be provided to the County DPLU. Approval of future Site Plans and/or construction permits shall not occur until it can be assured that the design features described in the Greenhouse Gas Emissions Inventory Analysis report (or other measures meeting the performance criteria specified above) have been depicted on the Site Plan or construction drawings, or if it can otherwise be demonstrated that the design features will be incorporated into the proposed development.

**Documentation:** The applicant shall prepare the Site Plans pursuant to this mitigation measure and in accordance with DPLU Form #506, *Applicant’s Guide to Site Plan*. The applicant shall submit the Site Plans to the Department of Planning and Land Use, along with all applicable review fees and deposits, along with evidence of compliance with Option 1 or 2, as specified above. **Timing:** Pursuant to Section 3.3.1 of the EOMSP, review for compliance with this mitigation measure shall occur prior to approval of future Site Plans for the site. **Monitoring:** The Department of Planning and Land Use shall review the Site Plans for conformance with this mitigation measure.

### 2.1.6 Conclusion

Significant Direct Impact AQ-1: As presented in Table 2.1-5, *Summary of Construction Emissions*, implementation of Mitigation Measures M-AQ-1a and M-AQ-1b would reduce Project construction emissions of NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. With application of M-AQ-1a and M-AQ-1b, Project emissions of 84.61 pounds of PM<sub>2.5</sub> per day during construction would be reduced to below the SDAPCD threshold of 55 pounds per day and Project construction emissions of 254.82 pounds of NO<sub>x</sub> per day during building construction, which would exceed the SDAPCD threshold of 250 pounds per day, would be reduced by at least 5% resulting in maximum total daily emissions of 242.1 pounds of NO<sub>x</sub> per day.

Mitigation Measure M-AQ-1a would reduce the Project's anticipated construction-level emissions of PM<sub>10</sub>; however, these emissions would not be reduced to a level below the SDAPCD threshold of 100.0 pounds per day. Although construction-level emissions of PM<sub>10</sub> would remain greater than 100.0 pounds per day upon implementation of M-AQ-1, PM<sub>10</sub> emissions would only increase during Project construction by 0.72 micrograms per cubic meter at the maximum exposed individual, which is below the threshold of significance (*i.e.*, 5 micrograms per cubic meter). As such, the Project's direct impact to air quality during construction activities due to PM<sub>10</sub> emissions would be considered less than significant with application of M-AQ-1.

Significant Direct and Cumulative Impact AQ-2: Implementation of Mitigation Measure M-AQ-2 (which requires compliance with Mitigation Measures M-AQ-3a, M-AQ-3b, M-AQ-3c, and M-AQ-6) would not reduce to a level below significant the Project's long-term direct and cumulative impacts due to an exceedance of the SLTs for emissions of VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. Although the measures identified by M-AQ-2 would reduce emissions of VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> to the maximum feasible extent, there are no additional mitigation measures available to reduce Project long-term operational emissions of these criteria pollutants to a level below the SLTs identified in SEIR Table 2.1-4. As such, the Project's direct impact to air quality during long-term operation due to emissions of VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub> represents a significant and unmitigable direct and cumulative impact of Project development.

Significant Direct Impact AQ-3: Although implementation of Mitigation Measures M-AQ-3a through M-AQ-3c would reduce the potential for exposure of the MEIR to incremental cancer risk above the County DPLU's threshold of 1.0 per 1 million, the proposed mitigation would not fully reduce these impacts to below acceptable levels. As such, the Project's potential to expose sensitive receptors to substantial pollutant concentrations would remain significant and unmitigable even after the incorporation of the required mitigation.

Significant Direct Impact AQ-4: Although implementation of Mitigation Measures M-AQ-3a through M-AQ-3c would reduce the potential for exposure of the MEIW to incremental cancer risk above the County DPLU's threshold of 1.0 per 1 million, the proposed mitigation would not fully reduce these impacts to below acceptable levels. As such, the Project's potential to expose sensitive receptors to substantial pollutant concentrations would remain significant and unmitigable even after the incorporation of the required mitigation.

Significant Cumulative Impact AQ-5: There are currently no thresholds in place for evaluating the significance of near-term construction emissions in terms of their contribution to GCC. However, implementation of Mitigation Measure M-AQ-5a would require that construction equipment use B20 biodiesel fuel where feasible. As a conservative measure, if B20 biodiesel fuel is available, and if

25% of construction equipment can accommodate its use, the measure will result in a 18.09 metric ton CO<sub>2</sub>e/year reduction equivalent<sup>4</sup>, or a reduction of approximately 3.9%. Although this level of reduction alone would not achieve the GHG reduction mandates of AB 32, compliance with AB 32 requires an overall reduction by 25% of the Project's aggregate GHG emissions (including emissions from construction sources, operational sources, and mobile sources). Mitigation Measure M-AQ-6 requires either that the Project achieve LEED certification status (which would achieve an estimated 25-30% reduction in operational emissions<sup>3</sup>), or requires the preparation of a future GHG Emissions Inventory to demonstrate that the Project would result in an overall reduction in operational emissions by 25%. Moreover, implementation of AB 1493 and the LCFS would result in a reduction of mobile-source emissions by 31%. Implementation of Mitigation Measures M-AQ-5a and M-AQ-6 would be enforced pursuant to Section 3.3.1 of the EOMSP. . Implementation of Mitigation Measures M-AQ-5a and M-AQ-6, as well as mandatory compliance with AB 1493 and the LCFS, would reduce the Project's aggregate GHG emissions by 30.79%, as shown in Table 2.1-14, *Total GHG Emissions and Reduction Estimate Summary*. This level of reduction would exceed the County's required reduction of 25% of aggregate GHG emissions. Accordingly, with implementation of the required mitigation and standard regulatory compliance, the Project's aggregate GHG emission impacts would be reduced to below a level of significance.

*Significant Cumulative Impact AQ-6:* Absent detailed site plans or building details, it cannot be demonstrated how the project would achieve a 25% reduction in energy consumption beyond that required by Title 24, Part 6 of the California Code of Regulations. However, Mitigation Measure M-AQ-6 requires the Project Applicant or Master Developer to either achieve the minimum number of points to achieve LEED Certified status, or to prepare a subsequent GHG Emissions Inventory analysis to demonstrate that the proposed Project achieves a minimum 25% reduction in area source GHG emissions. These requirements would be enforced pursuant to Section 3.3.1 of the EOMSP.. Meeting the requirements for LEED certification pursuant to Option 1 has been shown to result in a 25-30% reduction in emissions<sup>3</sup>. Adherence to Option 2 would require a future technical study demonstrating that the Project achieves the required 25% reduction, which also may require additional mitigation measures beyond that specified by M-AQ-6 in the event that the 25% reduction in area source emissions is not achieved by the proposed development plans. Thus, with implementation of either Option, the Project's operational GHG emissions would be reduced by a minimum of 25%. Although this level of reduction would achieve the GHG reduction mandates of AB 32 for the Project's area source emissions, compliance with AB 32 requires an overall reduction by 25% of the Project's aggregate GHG emissions (including emissions from construction sources, operational sources, and mobile sources). Implementation of Mitigation Measures M-AQ-5a and M-AQ-6, as well as mandatory compliance with AB 1493 and the LCFS, would reduce the Project's aggregate GHG emissions by 30.79%, as shown in Table 2.1-14, *Total GHG Emissions and Reduction Estimate Summary*. This level of reduction would exceed the County's required reduction of 25% of aggregate GHG emissions. Accordingly, with implementation of the required mitigation and standard regulatory compliance, the Project's aggregate GHG emission impacts would be reduced to below a level of significance.

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<sup>4</sup> Total construction emissions (amortized over 30 years) results in approximately 461.26 metric tons CO<sub>2</sub>e, 461.26 x 25% x 15.69% = 18.09 metric tons CO<sub>2</sub>e.

Table 2.1-1 AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.075 ppm (147 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	No Separate State Standard		35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	15.0 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m <sup>3</sup> )	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m <sup>3</sup> )		35 ppm (40 mg/m <sup>3</sup> )		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	—
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm (57 µg/m3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )		—		
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m <sup>3</sup> )	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (365 µg/m <sup>3</sup> )	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )		—	—	—
Lead <sup>8</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m <sup>3</sup>	Same as Primary Standard	High Volume Sampler and Atomic Absorption
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>8</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

Source: California Air Resources Board (6/26/08)

**Table 2.1-2 SAN DIEGO COUNTY AIR BASIN ATTAINMENT STATUS BY POLLUTANT**

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone (O <sub>3</sub> )	1 Hour	Non-attainment	No Federal Standard
	8 Hour		Basic Non-attainment
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	Non-attainment	No Federal Standard
	24 Hour	Non-attainment	Unclassified <sup>1</sup>
	Annual Arithmetic Mean	No State Standard	Unclassified <sup>2</sup>
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	No State Standard	Attainment
	Annual Arithmetic Mean	Non-attainment	Attainment
Carbon Monoxide (CO)	8 Hour	Attainment	Maintenance Area <sup>3</sup>
	1 Hour		
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	30 Day Average	Attainment	No Federal Standard
	Calendar Quarter	No State Standard	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Sulfates	24 Hour	Attainment	No Federal Standard
Hydrogen Sulfide	1 Hour	Unclassified	No Federal Standard
Visibility Reducing Particulates	8 Hour (10 AM to 6 PM, PST)	Unclassified	No Federal Standard

<sup>1</sup> Data reflects status as of March 19, 2007.

<sup>2</sup> Unclassified; indicates data are not sufficient for determining attainment or nonattainment.

<sup>3</sup> Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

Source: SD County Guidelines for Determining Significance (March 19, 2007)



**Table 2.1-3 PROJECT AIR QUALITY MONITORING SUMMARY 2005-2007**

POLLUTANT	STANDARD	YEAR		
		2005	2006	2007
Ozone (O <sub>3</sub> )				
Maximum 1-Hour Concentration (ppm)		0.112	0.087	0.092
Maximum 8-Hour Concentration (ppm)		0.069	0.069	0.072
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	2	0	0
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	0	0	1
Number of Days Exceeding Federal 1-Hour Standard	> 0.12 ppm	0	0	0
Number of Days Exceeding Federal 8-Hour Standard	> 0.08 ppm	0	0	0
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		7.9	5.1	5.7
Maximum 8-Hour Concentration (ppm)		3.70	3.36	3.39
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO <sub>2</sub> )				
Maximum 1-Hour Concentration (ppm)		0.109	0.097	0.101
Annual Arithmetic Mean Concentration (ppm)		0.024	0.024	0.022
Number of Days Exceeding State 1-Hour Standard	> 0.25 ppm	0	0	0
Inhalable Particulates (PM <sub>10</sub> )				
Maximum 24-Hour Concentration (µg/m <sup>3</sup> )		155	133	394
Number of Samples		56	61	62
Number of Samples Exceeding State Standard	> 50 µg/m <sup>3</sup>	29	27	27
Number of Samples Exceeding Federal Standard	> 150 µg/m <sup>3</sup>	1	0	1
Ultra-Fine Particulates (PM <sub>2.5</sub> ) <sup>b</sup>				
Maximum 24-Hour Concentration (µg/m <sup>3</sup> )		34.3	30.2	77.8
Annual Arithmetic Mean (µg/m <sup>3</sup> )		11.8	11.2	12.6
Number of Samples Exceeding Federal 24-Hour Standard	> 65 µg/m <sup>3</sup>	0	0	1

a. Otay Mesa Monitoring Station used unless otherwise noted.

b. Chula Vista Monitoring Station.

Source: CARB ADAM (<http://www.arb.ca.gov/adam/welcome.html>) and U.S. Environmental Protection Agency (<http://www.epa.gov/oar/data/geosel.html>)

Table 2.1-4 SCREENING-LEVEL THRESHOLDS

Pollutant	Total Emissions		
	Lbs. Per Hour	Lbs. per Day	Tons per Year
Respirable Particulate Matter (PM <sub>10</sub> )	---	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	---	55*	10*
Oxides of Nitrogen (NO <sub>x</sub> )	25	250	40
Oxides of Sulfur (SO <sub>x</sub> )	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOCs)	---	75**	13.7***

\* EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.

\*\* Threshold for VOCs based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley.

\*\*\* 13.7 Tons Per Year threshold based on 75 lbs/day multiplied by 365 days/year and divided by 2000 lbs/ton.

**Table 2.1-5 SUMMARY OF CONSTRUCTION EMISSIONS (AFTER MITIGATION)  
(Pounds per Day)**

Construction Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Demolition Activity</b>						
Fugitive Dust	0	0	0	0	0.84	0.17
Off-Road Equipment	6.65	58.84	30.30	0.00	2.69	2.48
Haul Truck	0.06	0.89	0.30	0.00	0.04	0.03
Worker Trips	0.06	0.10	1.77	0.00	0.01	0.01
<b>Peak Day Mass Emissions</b>	<b>6.77</b>	<b>59.83</b>	<b>32.37</b>	<b>0.00</b>	<b>3.58</b>	<b>2.69</b>
SDAPCD Significance Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Construction Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Grading Activity</b>						
Fugitive Dust	0	0	0	0	103.37	21.59
Off-Road Equipment	15.86	142.18	67.48	0	6.25	5.75
Worker Trips	0.14	0.23	4.14	0	0.03	0.01
<b>Peak Day Mass Emissions</b>	<b>16.00</b>	<b>142.41</b>	<b>71.62</b>	<b>0.00</b>	<b>109.65</b>	<b>27.35</b>
SDAPCD Significance Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO*</b>	<b>NO</b>

Construction Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Off-Site Construction Activity</b>						
Off-Road Equipment	2.06	16.81	8.22	0	0.88	0.81
Worker Trips	0.04	0.06	1.10	0	0.01	0
<b>Underground/Infrastructure Activity</b>						
Off-Road Equipment	2.06	16.81	8.22	0	0.88	0.81
Worker Trips	0.04	0.06	1.10	0	0.01	0
<b>Paving Activity</b>						
Off-Gas Emissions	0.81	0	0	0	0	0
Off-Road Equipment	3.50	19.99	11.53	0	1.84	1.70
On-Road Equipment	0.17	2.54	0.90	0	0.12	0.10
Worker Trips	0.04	0.08	1.37	0	0.01	0.01
<b>Building Construction Activity</b>						
Off-Road Equipment	4.39	24.29	15.51	0	1.82	1.68
Vendor Trips	11.94	151.39	111.91	0.27	7.20	6.00
Worker Trips	6.28	10.60	193.43	0.18	1.36	0.71
<b>Peak Day Mass Emissions</b>	<b>31.33</b>	<b>242.63</b>	<b>353.29</b>	<b>0.45</b>	<b>14.13</b>	<b>11.82</b>
SDAPCD Significance Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Source: URBEMIS 2007 v. 9.2.4

\*The results of the analysis reveal an increase of only 0.72 µg/m<sup>3</sup> of PM<sub>10</sub> at the maximum exposed individual, which is below the threshold of 5.0µg/m<sup>3</sup>. Accordingly, no significant impacts are expected with regard to this threshold.

Table 2.1-6 SUMMARY OF PHASE 1 OPERATIONAL EMISSIONS

Summer Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	245.79	1,845.99	3,342.56	5.75	846.62	197.39
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	3.64	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>249.61</b>	<b>1,846.82</b>	<b>3,344.79</b>	<b>5.75</b>	<b>846.63</b>	<b>197.40</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Winter Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	291.03	2,309.20	3,015.51	4.96	846.62	197.39
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	3.64	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>294.85</b>	<b>2,310.03</b>	<b>3,017.74</b>	<b>4.96</b>	<b>846.63</b>	<b>197.40</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Source: Urban Crossroads, April 29, 2009

Table 2.1-7 SUMMARY OF PHASE 2 OPERATIONAL EMISSIONS

Summer Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	408.62	2,985.02	5,513.98	10.26	1,500.40	342.80
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	6.50	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>415.30</b>	<b>2,985.85</b>	<b>5,516.21</b>	<b>10.26</b>	<b>1,500.41</b>	<b>342.81</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Winter Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	485.25	3,733.40	4,986.62	8.85	1,500.40	342.80
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	6.50	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>491.93</b>	<b>3,734.23</b>	<b>4,988.85</b>	<b>8.85</b>	<b>1,500.41</b>	<b>342.81</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Source: Urban Crossroads, April 29, 2009

Table 2.1-8 SUMMARY OF PHASE 3 OPERATIONAL EMISSIONS

Summer Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	563.08	3,975.83	7,548.23	15.19	2,206.49	493.98
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	9.62	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>572.88</b>	<b>3,976.66</b>	<b>7,550.46</b>	<b>15.19</b>	<b>2,206.50</b>	<b>493.99</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Winter Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	670.47	4,976.98	6,841.97	13.09	2,206.49	493.98
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	9.62	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>680.27</b>	<b>4,977.81</b>	<b>6,844.20</b>	<b>13.09</b>	<b>2,206.50</b>	<b>493.99</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Source: Urban Crossroads, April 29, 2009

Table 2.1-9 SUMMARY OF PHASE 4 OPERATIONAL EMISSIONS

Summer Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	672.70	4,536.59	8,904.14	19.37	2,797.71	614.40
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	12.27	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>685.15</b>	<b>4,537.42</b>	<b>8,906.37</b>	<b>19.37</b>	<b>2,797.72</b>	<b>614.41</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Winter Conditions (Pounds per Day)						
Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Vehicle Emissions	794.49	5,683.06	8,087.03	16.70	2,797.71	614.40
Natural Gas Emissions	0.06	0.81	0.68	0	0	0
Landscape Maintenance Emissions	0.12	0.02	1.55	0	0.01	0.01
Architectural Coatings	12.27	0	0	0	0	0
<b>Peak Day Mass Emissions</b>	<b>806.94</b>	<b>5,683.89</b>	<b>8,089.26</b>	<b>16.70</b>	<b>2,797.72</b>	<b>614.41</b>
SDAPCD Regional Daily Threshold	75	250	550	250	100	55
<b>Significant?</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>YES</b>

Source: Urban Crossroads, April 29, 2009

**Table 2.1-10 CONSTRUCTION GREENHOUSE GAS EMISSIONS**

Phase	CO <sub>2</sub>	N <sub>2</sub> O		CH <sub>4</sub>	
	MT/year	MT/year	MT/year CO <sub>2</sub> EQ	MT/year	MT/year CO <sub>2</sub> EQ
Demolition	2,221.85	0.13	38.88	0.26	5.56
Grading	6,014.90	0.30	94.18	0.66	13.89
Off-Site Construction	1,142.36	0.07	21.13	0.12	2.56
Underground Utility Construction	1,142.36	0.07	21.13	0.12	2.56
Paving	947.65	0.07	22.57	0.14	2.99
Building Construction	1,595.79	0.13	39.69	0.18	3.86
Architectural Coating	464.12	0.13	39.46	0.03	0.53
Total Over Life of Project	13,529.01	0.89	277.03	1.52	31.94
Total Amortized (Over 30 Years)	450.97	0.03	9.23	0.05	1.06

**CONSTRUCTION GREENHOUSE GAS EMISSIONS  
(METRIC TONS PER YEAR) (WITH MITIGATION )**

Phase	CO <sub>2</sub>	N <sub>2</sub> O		CH <sub>4</sub>	
	MT/year	MT/year	MT/year CO <sub>2</sub> EQ	MT/year	MT/year CO <sub>2</sub> EQ
Demolition	2,134.70	0.12	37.35	0.25	5.34
Grading	5,778.97	0.29	90.49	0.63	13.35
Off-Site Construction	1,097.55	0.07	20.30	0.12	2.46
Underground Utility Construction	1,097.55	0.07	20.30	0.12	2.46
Paving	910.48	0.07	21.68	0.13	2.87
Building Construction	1,533.20	0.12	38.13	0.17	3.71
Architectural Coating	445.91	0.12	37.91	0.03	0.51
Total Over Life of Project	12,998.33	0.86	266.16	1.46	30.69
Total Amortized (Over 30 Years)	433.28	0.03	8.87	0.05	1.02

Source: Urban Crossroads, In. Greenhouse Gas Emissions Hand Calcs, 2010

Note: Total construction emissions (amortized over 30 years) results in approximately 461.26 metric tons of CO<sub>2</sub>e prior to mitigation. Use of B20 biodiesel is anticipated to result in a reduction in emissions by approximately 15.69%, and it is conservatively assumed that only 25% of the construction vehicles could use B20 biodiesel without voiding warranties for the vehicles. Therefore, with implementation of Mitigation Measure M-AQ-5, construction-related exhaust emissions would be reduced by approximately 18.09 metric tons of CO<sub>2</sub>e [461.26 x 25% x 15.69% = 18.09 metric tons CO<sub>2</sub>e].

**Table 2.1-11 TOTAL OPERATIONAL GREENHOUSE GAS EMISSIONS (ANNUAL)<sup>a</sup>  
(Metric Tons per Year)**

<b>Phase 1 (2010)</b>					
Source	CO <sub>2</sub>	N <sub>2</sub> O		CH <sub>4</sub>	
	mtpy <sup>b</sup>	mtpy	mtpy CO <sub>2</sub> EQ	mtpy	mtpy CO <sub>2</sub> EQ
Mobile Source Emissions	90,818.58	15.97	4,951.95	4.79	100.68
Energy Use Emissions	1,859.47	0.02	5.25	0.08	1.60
Water Use Related Emissions	36.25	0.0003	0.10	0.001	0.03
Natural Gas Emissions	812.60	0.01	4.62	0.02	0.33
Total (metric tons per year)	93,526.89	16.01	4,961.92	4.89	102.64
Total (Teragrams CO <sub>2</sub> Equivalent)	0.0986				

<b>Phase 2 (2011)</b>					
Source	CO <sub>2</sub>	N <sub>2</sub> O		CH <sub>4</sub>	
	mtpy <sup>b</sup>	mtpy	mtpy CO <sub>2</sub> EQ	mtpy	mtpy CO <sub>2</sub> EQ
Mobile Source Emissions	161,878.03	26.43	8,193.85	7.78	163.28
Energy Use Emissions	3,317.86	0.03	9.36	0.14	2.85
Water Use Related Emissions	64.68	0.0006	0.18	0.003	0.06
Natural Gas Emissions	1,449.92	0.03	8.24	0.03	0.58
Total (metric tons per year)	166,710.49	26.49	8,211.63	7.94	166.77
Total (Teragrams CO <sub>2</sub> Equivalent)	0.1751				

<b>Phase 3 (2012)</b>					
Source	CO <sub>2</sub>	N <sub>2</sub> O		CH <sub>4</sub>	
	mtpy <sup>b</sup>	mtpy	mtpy CO <sub>2</sub> EQ	mtpy	mtpy CO <sub>2</sub> EQ
Mobile Source Emissions	239,225.65	29.81	9,242.28	10.34	217.17
Energy Use Emissions	4,911.67	0.04	13.86	0.20	4.23
Water Use Related Emissions	95.74	0.0009	0.27	0.004	0.08
Natural Gas Emissions	2,146.42	0.04	12.20	0.04	0.86
Total (metric tons per year)	246,379.48	29.90	9,268.61	10.59	222.34
Total (Teragrams CO <sub>2</sub> Equivalent)	0.2559				

<b>Phase 4 (2013)</b>					
Source	CO <sub>2</sub>	N <sub>2</sub> O		CH <sub>4</sub>	
	mtpy <sup>b</sup>	mtpy	mtpy CO <sub>2</sub> EQ	mtpy	mtpy CO <sub>2</sub> EQ
Mobile Source Emissions	304,903.48	41.30	12,804.05	12.33	258.93
Energy Use Emissions	6,265.91	0.06	17.68	0.26	5.39
Water Use Related Emissions	122.14	0.0011	0.34	0.005	0.11
Natural Gas Emissions	2,738.23	0.05	15.56	0.05	1.10
Total (metric tons per year)	314,029.77	41.41	12,837.64	12.64	265.53
Total (Teragrams CO <sub>2</sub> Equivalent)	0.3271				

Source: Urban Crossroads, In. Greenhouse Gas Emissions Hand Calcs, 2010

a. Annual = Average of summer and winter emissions, includes emissions from mobile and area sources.

b. mtpy = Metric Tons per Year

**Table 2.1-12 QUANTIFICATION OF CARCINOGENIC RISKS AND NONCARCINOGENIC HAZARDS  
(SHORT-TERM CONSTRUCTION ACTIVITY)**

Source	Maximum Concentration		Weight Fraction	Contaminant	Carcinogenic Risk			Noncarcinogenic Hazards		
	(ug/m3)	(mg/m3)			URF	CPF	RISK	REL	RfD	Index
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Diesel	0.08856	8.9E-05	1.00E+00	Particulates	3.0E-04	1.1E+00	1.6E-07	5.0E+00	1.4E-03	1.8E-02

Source: Urban Crossroads, April 29, 2009

**Table 2.1-13 CUMULATIVE WITH SR-905 WITH PROJECT CONDITIONS CO HOT SPOT LEVELS**

#	INTERSECTION	Peak 1-Hour		8-Hour Average
		AM	PM	
1	Enrico Fermi Drive (NS) and Airway Road (EW)	9.60	8.70	4.89
2	La Media Road (NS) and Otay Mesa Road (EW)	9.50	9.40	4.82
3	Alta Road (NS) and Siempre Viva Road (EW)	10.70	10.80	5.73
4	Enrico Fermi Drive (NS) and Siempre Viva Road (EW)	10.60	10.60	5.59
5	Michael Faraday (NS) and Siempre Viva Road (EW)	10.70	10.60	5.66
6	Enrico Fermi Drive (NS) and SR-905 Local Connector (EW)	10.50	10.10	5.52

Source: Urban Crossroads, April 29, 2009

**Table 2.1-14 TOTAL GHG EMISSIONS AND REDUCTION ESTIMATE SUMMARY**

GHG Source	Pre-Mitigated Emission Levels	Mitigated Emission Levels <sup>1,2,3</sup>	Percent Reduction
Construction (Amortized) <sup>4</sup>	461.26	443.17	3.92%
Area Source	9,166.46	6,874.85	25.00%
Mobile Source	317,966.46	219,396.86	31.00%
<b>Aggregate Total Emissions</b>	<b>327,594.18</b>	<b>226,714.87</b>	<b>30.79%</b>

1. Mitigated Emission Levels for amortized Construction emissions assumes compliance with Mitigation Measure M-AQ-5a.
2. Mitigated Emission Levels for Area Source emissions assumes compliance with Mitigation Measure M-AQ-6.
3. Mitigated Emission Levels for Mobile Source emissions includes anticipated emission reductions due to compliance with AB 1493 (estimated 21% reduction in mobile source emissions) and the Low Carbon Fuel Standard (estimated 10% reduction in mobile source emissions).
4. Construction emissions are amortized over a 30-year horizon.



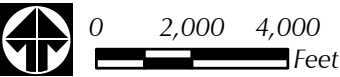
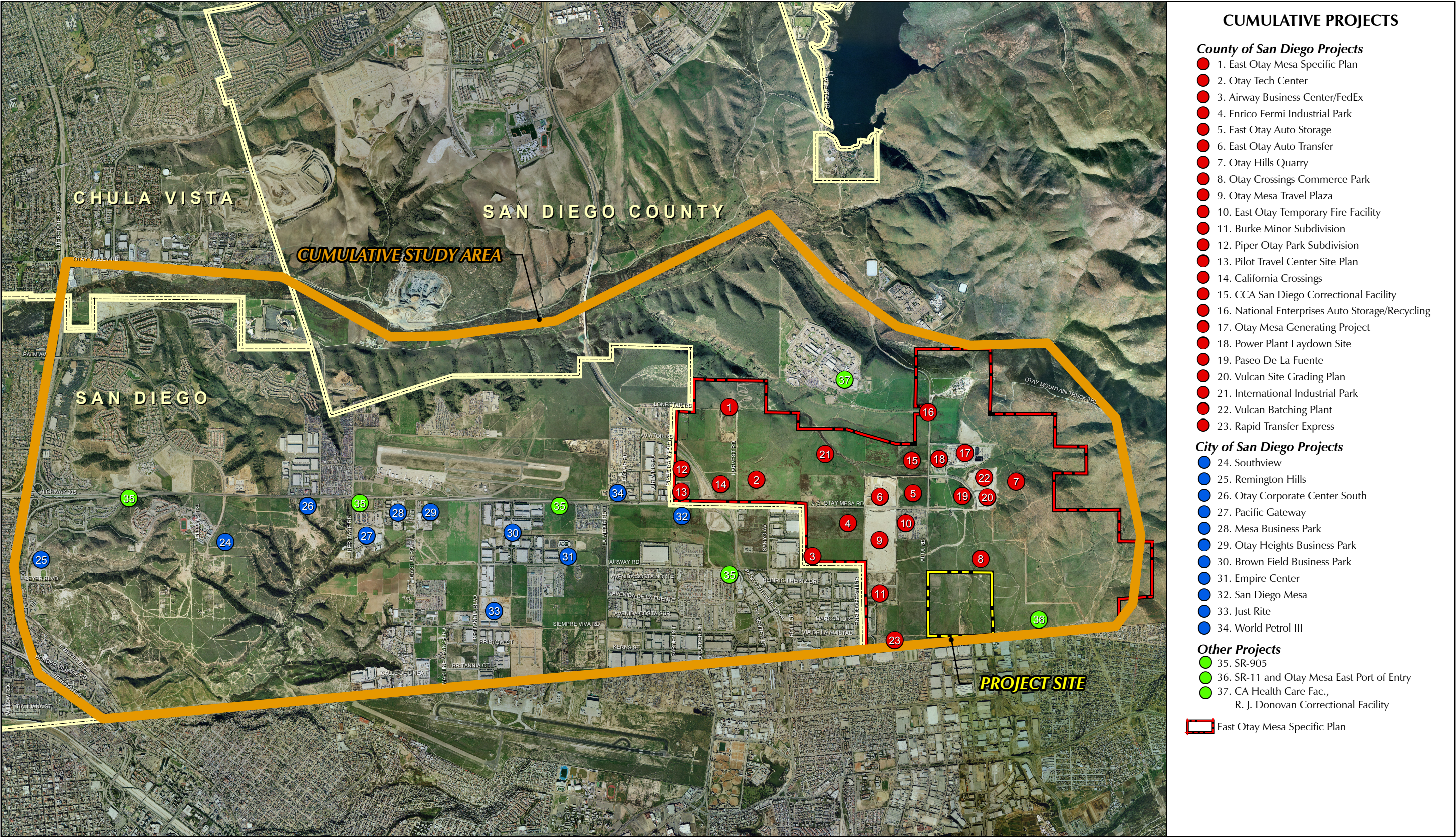


FIGURE 2.1-1  
Cumulative Study Area - Air Quality